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BETTER FRUIT

VOLUME VII

APRIL, 1913

NUMBER 10

MARKETING AND COLD STORAGE EDITION



Hood River Apple Growers' Union warehouse, 100 feet, and cold storage plant, the first two brick buildings, two stories and basement, 330 feet long, cold storage capacity 160,000 boxes. The Davidson cold storage plant begins at the second car and joins that of the Hood River Apple Growers' Union. It is 225 feet long, two stories and basement, with cold storage capacity of 100,000 boxes, making a combined cold storage capacity of 260,000 boxes and warehouse capacity of 100,000 boxes. The entire length of the two buildings is 555 feet, with loading stations for twenty cars at one time. The combined cold storage capacity for Hood River, which includes the two companies mentioned, the National Apple Company and the Hood River Apple and Storage Company, is 535,000 boxes, with common storage for 250,000.

THE MARCH EDITION has been pronounced the most valuable on marketing ever produced by any horticultural publication. The April number speaks for itself, and the May edition will be equally interesting, if not more so, on the subject of marketing, and in addition will be devoted largely to one of the most vital problems before the fruit growers today, By-Products. We believe every fruit grower should read the March, April and May editions of "Better Fruit" and the issues that will follow this year, therefore we ask all fruit growers to urge their fellow fruit growers to subscribe, and suggest that in commencing their subscriptions they order them to begin with the March edition.

BETTER FRUIT PUBLISHING COMPANY, PUBLISHERS, HOOD RIVER, OREGON

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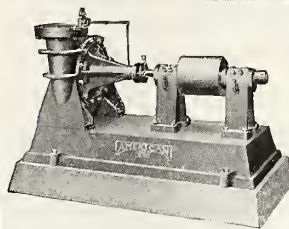
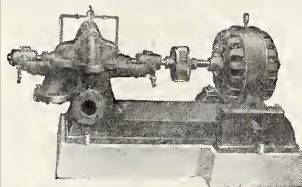
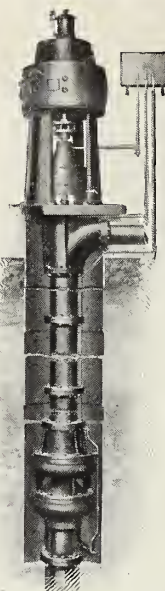
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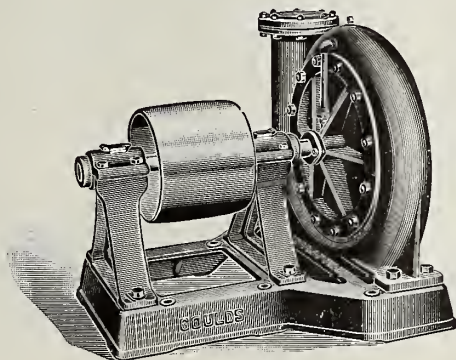
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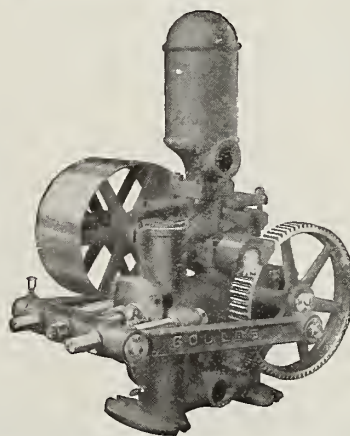


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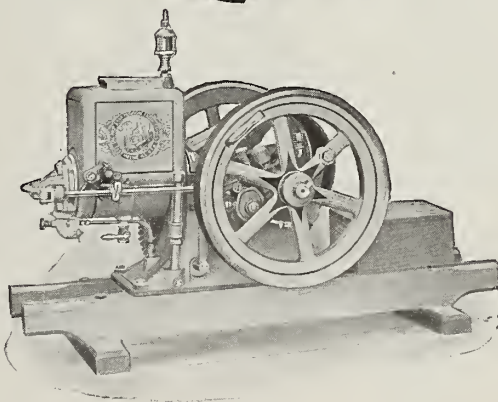
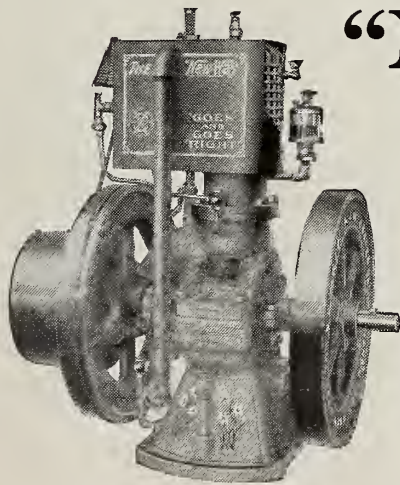
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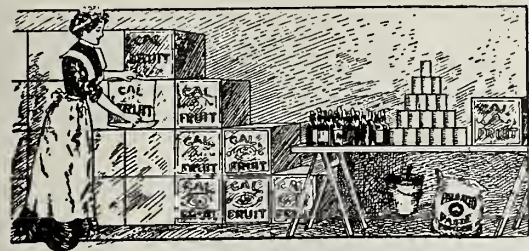
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H. S. BUTTERFIELD, President

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Newtown and Spitzenberg propagated from selected bearing trees. Make no mistake, but start your orchard right. Plant generation trees. Hood River (Clark Seedling) strawberry plants in quantities to suit
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Careful attention given to business
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Capital fully paid - - - \$100,000

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We give special attention to Good Farm Loans

If you have money to loan we will find you good real estate security, or if you want to borrow we can place your application in good hands, and we make no charge for this service.

THE OLDEST BANK IN HOOD RIVER VALLEY

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Established 1859

Oldest bank on the Pacific Coast

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Accounts of banks, firms, corporations and individuals solicited. Travelers' checks for sale, and drafts issued available in all countries of Europe.

BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

Apples from the Fruitgrower to the Consuming Public

H. M. Gilbert, of North Yakima, Washington, before State Horticultural Meeting at North Yakima

I DID not intend to prepare a paper for this occasion. I thought we would have a sort of a class meeting, but I didn't know but I might say something if we did, so I thought I had better pickle part of it anyway and put it in form so that it really wouldn't do any harm in the annual report. Mr. Shepard stole most of my thunder yesterday in what I consider the most comprehensive paper we have ever had on marketing before the state association as long as I have been connected with it. [Mr. Shepard's address appeared in full in March edition of "Better Fruit."]

I started a year or two ago to make some original investigations of the prices paid by the consumer, the prices received by the grower and the fellow or fellows who got what was in between. I don't think the results of my investigations will be quite radical enough for the people who do most of the talking at these state conventions, but any man must admit that they are conservative and they are as near as I can get at it from about 500 investigations. From actual investigations in a large number of markets in different states I find that where the consumer has been paying on an average, for our best grade of apples, \$3 per box the grower has been getting eighty cents per box. Where the consumer has been paying \$2.25 per box for medium goods the grower has been getting sixty cents. I find the following tables illustrate the proportions absorbed by the different agencies on the road from grower to consumer:

Retailer sells best grades.....	\$3.00	
Grower gets .....	.80	26½%
Shipper, association or grower's agent gets .....	.10	3¼%
Railroad gets .....	.50	17%
Brokerage and commission, receiving end .....	.25	8½%
Retailer gets	1.35	45%
		100%

Consumers pay \$3.00, or 375% on what the grower gets.

Shipper gets 12¼%; railroad, 62½%; commission, 31¼%; retailer, 375%, of price grower receives.

Retailer sells medium grades...	\$2.25	
Grower gets .....	.60	26½%
Shipper, association or grower's agent gets .....	.07	3%
Railroad gets .....	.43	19%
Brokerage and commission, receiving end .....	.25	11%
Retailer gets .....	.90	40%
		100%

Consumer pays \$2.25, or 375% of price the grower gets.

Everybody knows the grower gets too little and the consumer pays too much. That it costs too much to get from grower to consumer. But instead of squarely facing the facts and find-

ing a remedy, mixing brains with our business, the grower condemns the railroad, condemns the local buyers, condemns the commission men, condemns his association or shipping agent and ignores the big fact that in the retailer is the big trouble. It is true the railroads charge too much, especially on apples and fruits to the Middle West. It is true, while the Northern Pacific made better time in many instances this year and always had cars ready to load, still their service can be greatly improved, and some of their connecting lines east of Billings and St. Paul must be condemned most severely for slow

speculators controlling the situation have passed. The deal is too big for them; too many new districts have developed. But with the new days should come lower retail prices—he thinks if he lowers prices it is hard to raise them; he hears of magnificent yields, big fortunes, and of \$2,000 per acre made by the growers in the Far West; he easily persuades himself his profits on red apples should be along the real estate dreamers' lines. He hears of the big fruit-selling trusts being formed in the Northwest to charge him high prices; he sees no business sense; he believes it's better to keep on "gettin' a plenty while he's a gettin'." He prefers to handle fewer boxes and make larger margins; he still believes Northwest apples a luxury.

There is your problem. The retailer controls the situation. You can't sell to the consumers; entirely impossible—you can't start competition with the retailer in hundreds of thousands of markets—you can't fight the retailer. What can be done? We must join hands with the retailer; we must study his problems; we must show him that our apples are not a luxury but the best real value for the money in apples. In certain sized cities and localities the retailer must be shown that he should buy in carlots, at one-half to two-thirds the price, direct from shipping point, instead of in ten and twenty-box lots from the speculators. This alone will quadruple the consumption of our apples in thousands of cities. The retailer must be educated as to the life and proper season of the different varieties. If he buys Jonathans or Grimes Goldens from the lower valleys and tries to keep them in common storage till Christmas he will lose a bunch of money and we will lose a market for many carloads. We often get orders for apples two months out of season. I am satisfied ignorance on the part of the retailers regarding proper season, keeping quality, proper temperatures and places to keep apples—keeping our fine apples in cellars where they absorb the flavor of cellar dirt and mold, potatoes, cabbage and smoked meats, etc.—has cost us many markets, made the retailer heavy losses and forced him to charge a big margin to recover his losses. How can the retail grocer, familiar with New York apples, understand or know that many of the same varieties here in our lower valleys are one to three months earlier.

The retailer is not mean or vicious. He is a man like the rest of us, quick to catch an idea, anxious to be shown. Mr. Shepard, in his remarkable paper

Features of this Issue

COLD STORAGE AT HOME—A
SUCCESSFUL METHOD

WHY NOT MORE CHERRIES?

APPLES FROM FRUIT GROWER TO
CONSUMER

A BETTER APPLE MARKET, OR HOW
TO GET TO THE CONSUMER

STORAGE AND TRANSPORTATION OF
FRUIT

THE NECESSITY OF COLD STORAGE
FACILITIES AT HOME

time. To illustrate, fifty cents per box for peaches to Des Moines, Peoria, Racine, Chicago, Cleveland and hundreds of cities in the big Middle West is too much. If, however, with the opening of the Panama canal we are able to land apples in New York and New Orleans for twenty-five cents a box freight no doubt railroads will find a way to compete, and I have no doubt freight rates on apples will be much less.

But where the railroads take fifty cents per box the retailer takes a dollar. How can this be remedied? In the first place the retailer must be persuaded to get rid of the idea that extra fancy Northwest box apples are a luxury to be sold only on fruit stands and by the dozen and to the very rich. For years we have sold our apples largely to the speculator; the speculator has sold and resold to other speculators with many profits added—sometimes as high as seven by actual tracing. The retailer has paid an extravagant price and handled our apples only as an expensive luxury. That is the education we have given him. But the old days of



"Better Fruit" Booth at the Pacific Northwest Land Products Show held at Portland, Oregon. "Better Fruit" also had a similar booth at the National Apple Show, Spokane, Washington, being the only horticultural paper that had a booth at either of these shows.

yesterday, said and reiterated, "There's a remedy." So I say, "There's a reason," and a reason on reason why the retailer charges such large margins, and no one can correct his attitude so easily as the grower and his shipping agents. Some of the pleasantest work I have ever done has been in changing the attitude of the conscientious retailers and wholesalers, and there are thousands of them. Get their attitude corrected, treat them right and they are your business friends for years. I have had much more trouble trying to get our growers to pick their fruit at proper times and not let it lie around packing houses and cellars until the retailer can't make any money on it. Thousands of boxes of Yakima apples were held in big warehouses, stored in rolling cars, diverted from point to point until they were too ripe to keep and had to be forced on the market at any price. No retailer could make money with them. Instead of finding out what a market or a customer wanted and getting an order before loading, shippers, associations and inexperienced marketing agents loaded the cars as the apples happened to come, rolled them without destination, sent out long tramp car sheets, wired and rewired every big market in America, wired them again and again; wired all the small markets they knew, quoting high prices; wired again quoting lower. What could your broker do? What could your wholesaler do? What could the retailer do? You spiked their guns. They couldn't do a thing. They had no means of knowing the limits of your folly. I tell you the day is past to expect the big markets to receive and distribute all our crop. There are thousands of cities wanting our apples; there are millions that

know our apples are the best in the world. This year not one consumer in five who want our apples is getting them.

We must economize in production; we must economize in our packing and grading, and we can and do it better. I believe the season of every variety of apple should be stamped on the box; that a leaflet should be placed in every box describing our principal varieties, both for the education of the retailer and the consumer. But the big thing is to get the idea that Yakima apples must be sold from Yakima, Wenatchee apples from Wenatchee, Hood River apples from Hood River. An efficient selling machine—salesmanship—is what we lack. No high-sounding names can save us; they hinder. What we want is men who can sell. What would any great business do without a selling machine manned by experienced and successful salesmen. I say I believe in a central selling agency for the Yakima Valley. I am not afraid but what Wenatchee would work with us; I am not afraid but what Hood River would ask and get good enough prices if they knew that Yakima would not be demoralized. Now, to get a central selling agency (I wasn't going to tell you this) it has got to be based on something in common sense. For some reason or other we have to take men about as they are. There are four kinds of men—fruitgrowers—in the Yakima Valley. There is the man, like our worthy president, who knows markets pretty well himself, who has worked years and years to build up a brand of pears. There is no reason why he should pay tribute to anybody to get a market for his pears and send them to market, pooled with others, and draw his prices down to anybody's

level. Then there is the big individual grower who has his own organization, such as J. H. Wright. They know where their fruit ought to go. Such men as Sawyer and Wright are not the men who pull down prices. They are men who handle their own fruit in their own way and get the best of prices. Then there are the men who will not part with their fruit in any way unless they can haul it down and get the gold to go home with. These fellows, who haven't faith enough in humanity or have too much sense, I don't care which way you put it, are so constituted that when they take their fruit to town they don't want to have any faith in the business; they want to get the money for the fruit right on the spot. Then there is the class that don't want anybody else make anything out of their fruit—at least not anybody that they can see. They want to co-operate; they want to have their local business and run the thing themselves. Some of them are mighty good people; there are good people in all of these classes.

How are you going to hitch up the team? Are you going to hitch them at the opposite ends of the rope? I haven't worked out the details of it, but I don't see any sense in sending out four sets of telegrams, and having four sets of selling agents, and four sets of stenographers, and four sets of book-keepers. What is the use of multiplying expenses by four? What is the use of multiplying these high-salaried men by two, or three, or four? I say a central selling agency that will sell the fruit for all these classes is what we need in the Yakima Valley. We have got to give and take a whole lot. You can't change such men as Sawyer and Wright. You can't change the men who have gone into the horticultural union and spent ten or fifteen years to build up a brand and work up a business. They are good men and you can't change them. You can't change the men who have gone into the association, if we had any desire to. You can't change the men who insist on getting their money when they deliver their fruit. But can't you get them together? You must stop the competition between them. It won't do for me to quote peaches at fifty cents and somebody else at forty-five cents, another at forty cents, thirty-five cents, thirty cents and twenty-five cents—yes, they did sell for twenty cents this year. And when you fellows took them down and sold them for twenty cents, and the dealer quoted them out at twenty-five cents, the association had to cut to thirty-five cents and thirty cents. When the association sold at thirty-five cents what became of mine? They tell the story that I dumped four cars in Portland—dumped them in the "bay." I don't know where the "bay" is in Portland. I did sell one car at fifty cents f.o.b. shipping point, and four cars at forty-five cents, and ten cars at forty cents. I made those sales and the next day, after I had shipped the fifty-cent car, the fellow wired

back, "Your competitors quoting forty cents." I wired, "Sales made; can't change price. Goods not here yet." I thought they were not, but a concern had three cars on the same train with mine, and maybe you think there wasn't a rumpus in my business in Portland. But I didn't dump the peaches. I collected fifty cents a box for part of them and forty-five cents for the balance. I shipped one more car and collected forty cents. The balance of the orders were cancelled and we did not ship more than the two. That was the result of it. We could just as well have had fifty cents a box, because there were only five cars to go from the valley that week.

We must get rid of this competition among ourselves. My man was selling peaches in Michigan—rather an unusual proceeding I admit. But we had two cars sold at forty-five cents a box. Very unfortunately the dealer called up a broker at Milwaukee, representing a big concern in the Yakima Valley, about other matters, and he incidentally asked him at what price he was quoting Yakima peaches. He said thirty-five cents. Maybe you think there wasn't a disturbance right away. We had to compromise and take forty cents. Now, I believe that with one representative from the association, one from the union, one from the dealers, the business could be conducted absolutely on the square and the Yakima brands could stay just as they are. I believe that the union brand could stand and grow better as the years go by. I believe that the Richey & Gilbert brand could stand and grow better. I believe that one central selling concern could stop the competition and sell all the fruit we grow in the Yakima Valley and at satisfactory prices. I know the people are ready for it. In Ohio, Illinois, Iowa and all over the country people are wanting the Yakima fruit. I know there are a thousand towns for every thousand cars of apples grown in the Yakima Valley, and I don't care if you multiply it by ten; we will clean out every orchard in New York and Ohio and the East before we are compelled to quit business. We can grow apples cheaper per box. We produce a great deal bigger tonnage per acre; we can spray cheaper; we are certain of a crop every year. I tell you we can knock out all the competition that I have ever seen in the world if we will only get our heads together in some other way than "butting" them together.

The future to me is bright in the apple business. I haven't a bit of doubt but what we will get some sense in the marketing end of the business. I happen to know, as we get hundreds of letters every week from the retailers, from the wholesalers, from the dealers; we are not in antagonism with any of them, as some of you may think. The biggest effect of the "awful letter" that we sent to 1,200 retailers was that we got in touch with more wholesalers than we were in touch with before. It wasn't very long after we got the retailers worked up that they worked



Freewater, Oregon, Fruit Exhibit at the Walla Walla County Fruit Fair, Fall of 1912, which received first prize of \$150 cash and a silver cup awarded by the Oregon-Washington Railroad & Navigation Company.

up the wholesalers and got them interested. A wholesale man at Elgin told us, "I can do this business for you better than the retailer can or better than you can do it yourselves with these retailers." All right; we then did our business through the wholesaler. We got several cars of peaches in there at a cracking good price. If we had done as well with all our fruits as we did with those that went to the retailer we would have a lot more happy patrons. A number of the cars, of course, we had prepared the small markets for in advance. On these we did well. Where we were forced into the big markets we were hit with the rest. I will not refer to the inquisition I had with the Commercial Club because I dared to write letters to some retailers and because I dared to invade the territory of North Dakota, but I want to tell you that the retailers in North Dakota are just as tired as we are, and we have had a splendid business in North Dakota, not because we went to the retailers alone, but we went in there and said we must have a share of that business, and we have had a share of it and it hasn't hurt the market in North Dakota a particle. I beg your pardon for speaking so long. I repeat, the big thing is to show the retailer how he can handle our fruit in larger quantities on smaller margins, and here at home it is a problem in psychology to get the union, the association and the big dealer to join in one efficient selling machine located at home.

Editor Better Fruit:

I enjoy your beautiful magazine, which equals any production published of this or any other nature, and you merit all the praise that can be bestowed upon you. Yours truly, E. G. Bliss, Essex, Connecticut.

Retail Price of Apples Cut

"Under the old apple tree" is to be the motto of Mrs. Julian Heath and the Housewives' League this week. Today, beginning at 11 o'clock, under the Queensboro bridge, you may buy apples, beautiful red Baldwin apples, for five cents a quart, the same kind you pay from twelve to fifteen cents for in the stores. Mrs. Heath sees an entirely new situation in the matter of the high price of apples. It's the retailer, she says, who is keeping up the price this time. So, in addition to selling the apples at the Queensboro market, a campaign will be made all the week among the retailers in the hope of getting them to come down with the price of Baldwins. Besides the five-cents-a-quart variety there will also be on sale by the Housewives' League fancy boxes containing 150 apples at one cent apiece—for the apples, not the boxes. Mrs. Heath will conduct this morning's sale in person.—"The Spy."

The twenty-first annual meeting of the National League of Commission Merchants, which was held at Cincinnati, was the largest and best ever held. Their membership is composed of 283 firms from 28 different cities. The following officers were elected: President, J. J. Castelinin of Cincinnati; first vice-president, J. C. Scales of Chicago; second vice-president, W. E. Jones of Baltimore; secretary, John H. Shreve of Washington; treasurer, S. S. Darmon of Philadelphia. Mr. R. S. French of New York City is business manager. The next meeting will be held at Jacksonville, Florida.

Why Not More Careful Attention to the Cherry Industry?

By C. I. Lewis, Chief of Division of Horticulture, Oregon Agricultural College Experiment Station, Corvallis

DURING the past ten years by far the major part of our attention in the Pacific Northwest has been given to apple culture. The few exceptions to this will be found largely in the Willamette Valley, where there has been built up a considerable prune industry, and in Southern Oregon, especially the Rogue River Valley, where such a splendid pear-growing business has been established as to give the valley the reputation of producing the finest pears that are put upon the world's markets. We have, however, climatic and soil conditions on the Pacific Coast that allow us to grow to perfection many other fruits. One of these fruits—the cherry—I wish to deal with in this article.

The writer has been investigating cherry growing as it now exists in this country as a whole. He finds, first, that the greater part of the United States cannot, or does not at least, produce sweet cherries profitably, the one exception to this being the Pacific Coast, including the States of Washington, Oregon and California; second, that sweet cherries are very popular in every state in the Union, there being at present very few sections of the country that can produce enough sweet cherries for home consumption; third, that we should undoubtedly find it profitable to grow more sweet cherries for shipping green, for canning and for the manufacture of maraschino; fourth, that the sour cherry is a very profitable fruit in some sections of the East, especially in such states as New York, Michigan, Wisconsin, Iowa and Colorado, the sour-cherry industry having developed very rapidly in New York especially; and fifth, that here on the Pacific Coast excellent sour cherries can be raised, and we should plant a considerable acreage of this fruit to help maintain the many canneries that are now established all over the Coast.

A few sweet cherries are being grown in nearly all the fruit valleys of the Pacific Northwest. In Oregon especially the industry has been developed in three centers, in the Willamette Valley, with perhaps Salem as a center; along the Columbia Valley, at The Dalles, and in the Grand Ronde Valley in Eastern Oregon, in the vicinity of Cove. The cherries that are produced in the Pacific Northwest cannot be surpassed in size, in firmness and in general eating qualities. It is not an uncommon thing to find the prize-winning boxes exhibited at our cherry shows each summer packed with cherries eight of which measure nine inches. These cherries have a very small pit and are very meaty. The sweet cherry is somewhat exacting in its soil and climatic conditions; in fact, as far as climate is concerned, it finds desirable conditions only in the Pacific Northwest and in California. This tree will not stand extreme cold weather, and when subjected to it often cracks open,

and is easily winter killed. In those regions that are subject to early spring frosts sweet cherries are out of the question, as they are one of the first tree fruits to bloom and are easily damaged by frost. Cold rains during the blooming time are often disastrous. A great deal of damage also results to the crop if heavy rains occur about the time that the fruit is ripening. This causes the fruit to crack badly, and in some parts of the Pacific Coast during certain seasons the loss has been extremely heavy from this source. Cherries, then, being so susceptible to climatic conditions, they naturally do much better in regions where, after spring weather once sets in, there are very few setbacks. Wherever alternate cold and warm periods occur during the spring months the trees do not thrive, certain diseases seeming to work havoc under such conditions.

As for soils, the sweet cherry prefers a light, warm loam. It does not like wet feet, and the stiff clay loams upon which the apple and pear thrive are absolutely unsuited for cherry production. The river-bottom soils and the lighter clay loams of Western Oregon and the volcanic ash and silt loams of Eastern Oregon are, on the whole, the best soils upon which to plant this fruit. One should at times avoid soils that are too gravelly and sandy, as these tend to bring the trees into activity too early in the spring, which may lead to

chilling of the sap, often followed by disastrous consequences. Sweet cherry trees grow to be very large, in fact the largest fruit trees we have on the Pacific Coast are sweet cherry trees. Thirty-five feet at least should be allowed between mature cherry trees. However, the percentage of loss from gumosis, winter injury, etc., in many orchards is rather high, consequently some growers have practiced planting their trees somewhat closer than this, because, should they crowd after reaching maturity, they could be easily thinned out; and, on the other hand, should a considerable percentage be lost from causes such as I have already mentioned the orchard would still contain a sufficient number of trees to be profitable.

Most cherry orchards are given clean tillage. Many growers, however, cease tilling very early. Often the last tilling is given about the time the fruit is picked. I believe, however, that in many cases this is a mistake and that it would be well to till the trees later in the summer than is now commonly practiced. It is a mistake to till young cherry trees that are not yet in bearing much later than the first of August, as the trees should be given a chance to harden and go into dormancy in the early fall. We have noticed in Western Oregon that sweet cherries do extremely well in lawns where the grass is kept mowed and sprinkled. This



"California Supplying the World with Apples by Land and Sea." Exhibit of Watsonville High School. California Apple Show, Watsonville, October 7 to 12, 1912. Awarded first prize of \$250 for the best feature exhibit.

leads me to believe that perhaps one of the best ways to grow the cherry would be to substitute shade crops (say clovers or similar crops) for tillage in the orchard. Of course, this would be practicable only in irrigated regions.

I shall not have space in this article to go into the details of pruning the cherry. Suffice it to say that we prefer the one-year-old trees. There is a feeling among many growers that the Mazzard stock is superior for most of our sweet cherries, and many are advocating making the trunk and main forks of the Mazzard and budding over the branches to whatever varieties are desired, claiming that less loss is experienced where this method is practiced. Trees are usually headed low and are grown in what is known as the open or vase-type of tree. One caution, however, that I wish to give my readers is that the average cherry grower allows his trees to become too high before they come into fruiting. More heading back should be practiced. This, of course, would mean thinning out of excessive lateral growth that would be produced by the heading back. There seems to be a general belief among many of our cherry growers that it is a mistake to till and prune cherry trees. Personally I believe that this idea is a fallacy, and from experiments that I have tried at our experiment station I know that there are no bad results consequent upon heavy pruning of cherries. I would, however, take extra precaution to protect all wounds. Many of our leading growers are advocating pruning the cherries soon after the crop is picked rather than doing much pruning in winter. In those regions which are subject to severe winter weather it will be well to delay cherry pruning at least until spring. However, the pruning should not be put off until the sap is moving strongly.

As for the varieties to plant in the Pacific Northwest, our list is comparatively small. Most of the best varieties we have were originated here on the Coast. The Royal Ann, originally known as Napoleon Bougereau, is our leading flesh-colored cherry. It is grown very extensively in the Willamette Valley and at The Dalles, and even in Eastern Oregon. I believe that it tends to grow to the greatest degree of perfection in such regions as The Dalles; not that the fruit is any superior under conditions there, but that the tree itself seems to be specially thrifty and strong. The leading red and black cherries are the Lambert and the Bing. The Lambert is the leading cherry in Western Oregon, while the Bing grows superbly in Eastern Oregon in the vicinity of Cove. What is true of Oregon is also true to a very large extent of Washington, the Bing succeeding better east of the Cascades than west of them, while the Lambert, on the other hand, succeeds so much better west of the Cascades than east of them. In choosing varieties, however, each cherry orchard should have more than one. Some growers have found the Black Republican to be a very profitable variety. Great mistakes have been made by planting large blocks of one variety. This is especially true with the Royal Ann, which tends to be self-sterile. It is much better, then, for pollination to plant the cherries in oblong blocks containing from two to six rows of a variety, or, if one variety only is desired, then every fifteenth or sixteenth tree in the orchard should be of some other variety. The yields of sweet cherries under the Coast conditions are at times enormous and the profits in well-cared-for orchards are very satisfactory. The profits, however, that we have realized in sweet cherries are not what could be obtained if we were

better organized so that we could handle our crops more skillfully. With the establishment of central selling agencies, and with better distribution, more satisfactory results can be expected.

The fruit is disposed of in numerous ways: Fresh or green fruit for canning, for maraschino manufacture, for drying and for fruit syrups. It is in the production of fresh cherries that the Pacific Coast should build up an enormous industry. The Lambert cherry, for example, when properly grown and handled carefully, could be shipped all over the United States. This variety could be loaded into refrigerator steamers on the Coast and shipped to the Atlantic seaboard and also to Europe. I have seen Lambert cherries picked the first week in July in very fair condition the middle of September. These cherries have been shipped in small shipments to Alaska, Mexico City and Liverpool, and they arrived in good condition. The Bing, as grown in Eastern Oregon, is fully as good a shipper as the Lambert in Western Oregon. For canning purposes the Royal Ann is the favorite. Its splendid color and light-colored juice make it very attractive. The Elton is often canned in quite large quantities. There is not as yet much of a demand for the black-fleshed cherries for canning. However, there seems to be an unreasonable prejudice against dark-colored cherries. The writer believes that if more persons had tried such varieties as the Lambert and Bing in cans these varieties would be much more popular than they are now. For maraschino purposes the Royal Ann is the only cherry desired, and this cherry is coming into greater and greater demand for such purposes. One California firm the past year tried to buy six hundred thousand pounds in one Oregon district. The price offered was eighty dollars a ton, and at this price very good money can be made with the Royal Ann. At this experiment station we have been trying experiments in drying cracked cherries, and the Lambert cherry makes a most delicious confection. In fact there should be a splendid market for this product. It is rich and meaty and preferable to raisins. Of late there has been an increased demand for cherries for syrup manufacture. One concern on the Pacific Coast finds the Bing to be especially adapted for this class of by-product.

Sour cherries on the Pacific Coast are grown chiefly only for home use. In the seven seasons that the writer has spent on the Pacific Coast he has never known a failure of sour cherries. However, up to the present time the only possibility of disposing of sour cherries has been for a light local consumption, there being very little demand for sour cherries as long as the market was supplied with good sweet cherries. However, with the establishment of canneries, which are now being erected in nearly every fruit center, the growing of a considerable area of sour cherries would be a very profitable indus-



Apple Booth Conducted by Messrs. Copeland and Hyde, California Apple Show, October, 1912. Small boxes of apples were forwarded from this booth to all parts of the world.

try. The success of a cannery depends upon the amount and variety of produce it can secure. If the cannery can be run for a long season profits are much better and a better rate of interest is realized from the money that is tied up in the plant. There is an increasing demand for the sour or pie cherries, and in certain of our Eastern States the sour-cherry business is becoming one of the most profitable fruit ventures in the entire United States. With the opening of the Panama Canal we should be able to sell enormous amounts of by-products, and sour cherries would meet with a splendid demand in European ports. There is also an increasing demand for the sour or pie cherries in our Coast cities.

From the small number of trees that have been grown on the Pacific Coast it is impossible to say what areas would perhaps be more especially adapted for this fruit. However, we know this, that the sour cherry is much harder than the sweet cherry. It will stand more severe weather in winter and it is not so easily damaged by spring frosts and cold, rainy weather as is the sweet cherry. It thrives on the lighter, well-drained loams. The trees are planted from eighteen to twenty feet apart. Small-growing varieties like the English Morello can be set eighteen feet, while the larger growing varieties, such as the Montmorency and the Kentish, should be given at least twenty feet in our strong loams. The tillage given the sour cherries would be very much the same as is now given our sweet cherries and prunes. In fact the trees will grow about the same size as prune trees and the soil treatment would be almost identical with what is practiced now by our most successful prune growers. In the eastern part of the United States the two-year-old trees are planted almost entirely. Probably here on the Coast we should still cling to our practice of using one-year-old trees. The sour cherries never make very large trees and do not grow high, nor do they tend to be as rangey as the sweet cherry trees. Nevertheless they should be grown as low as possible, consistent with economical tillage and handling of the orchard. Other than this there will be very little pruning to give the trees, and from present indications the spraying problems will be somewhat simple.

For varieties, the three leading varieties in the East are the large Montmorency, the English Morello and the Early Richmond. The Early Richmond is the same cherry as the Pacific Coast Kentish. This variety is found growing in nearly every farmer's orchard all over Oregon. On Vancouver Island the Olivet is becoming a great favorite, this cherry being a great shipper. The first three I have named are not good shipping cherries, at least not for long distances, and cannot be considered in the same class as the Lambert cherry for shipping purposes. I should not advise our growers to plant them with the idea of shipping, unless it be those of



Interior View of the First National Bank, Traverse City, Michigan. Traverse City is located in the great fruit belt of Michigan. Mr. Titus, who is cashier of the bank, has large orchards and takes an active interest in the fruit industry. The cup shown in the bank is a trophy awarded to Grand Traverse for three consecutive exhibits at the State Fair held at Detroit, Michigan. Mr. Titus in addition shows his interest in the fruit business by keeping continually in the bank an exhibit of select fruit, which is a capital idea and should be adopted by all banks in all fruit growing sections.

certain districts that desire to grow the Olivet. Of the varieties I have named the large Montmorency is by far the most popular cherry for the canneryman. Probably there are four times as many Montmorencies grown as of all the other varieties put together. The reasons for the popularity of this variety are its size, its firmness, its small pit, its red color and its attractive red juice. The trees begin bearing as four-year-olds, and by the time they are from six to eight years of age, come into fairly heavy bearing. Probably mature trees will run from one hundred and fifty to two hundred pounds of fruit per tree. The average price paid by canneries in the United States ranges from four to six cents per pound.

Concerning some yields that are secured in Eastern States, my readers will be interested in the following figures. One grower has two hundred and ninety-two trees, nearly one-half of which are large Montmorencies, which he reports to be his best bearer and best seller; other varieties being Dychouse, Early Richmond and English Morello. The orchard was set out in 1905, one-year-old trees being used. The trees were planted twenty feet apart. Four crops have been gathered, last year the yield being five thousand quarts, this year four thousand quarts, and indications for next year making a yield of from six to eight thousand quarts probable. One two-acre orchard of Montmorency cherries bore in 1909, after the trees had been planted four years, half a ton; in 1910, one ton; in 1911, six tons, or three tons per acre.

Another grower tells me that trees fifteen years old yielded this year from ten to fifteen crates, each holding a half bushel, dry measure. Trees ten to twelve years old yielded three hundred crates per acre, which were sold at \$1.59 net per crate, delivered at the railroad station. Another grower reports that trees eight years old yielded from six to eight crates of sixteen quarts each per tree. Trees thirteen years old yielded from eight to twelve cases of sixteen quarts. The trees seem to come into bearing from three years old on, reaching good bearing at from six to eight years. Under the conditions, then, it would seem that a limited area of sour cherries planted in proximity to each one of our canneries would be a splendid paying proposition; that the yields and the prices paid by the canneries, considering the number of trees one can plant per acre, the time at which these trees come into bearing and the whole cost at which trees can be produced under our conditions, should make this a very attractive investment.

Most of the fruit exported in past years from the United States has gone through New York City. Boston is now seeking her share of this business, and is also endeavoring to come in for a share of the passenger business to Europe. Boston is showing its enterprise in going after this business by issuing a very attractive circular with a view to inducing people to sail from Boston instead of other ports.



Wild Rose Orchard Company's Individual Exhibit. Winner of blue ribbon and a cash prize of \$200 at the National Apple Show, Spokane, 1912.

Cold Storage at Home—A Successful Method

From the Produce News

THE problem of taking care of a fruit crop from the time it is harvested until it is marketed is a serious one. This is especially the case if the crop is to be held in storage for a later market. Clark Allis & Son, large operators in apples here, have finally solved their problem by using the Cooper method of refrigeration on their farm. As their experience would no doubt prove of much interest to News readers, the following statement has been received from Clark Allis, who is president of the New York State Fruitgrowers' Association:

"Our orchards have been increasing in acreage until we have 150 acres, mostly in apples, with 5,000 to 8,000 barrels of apples per year. The time and expense of hauling fruit to storage, or to the cars, and the expense of storing, with the disadvantage of having the control of our fruit pass out of our hands as soon as unloaded, convinced us that a storage on our farm was necessary. To this storage we could haul our apples unsorted from the orchards, doing our grading over a Trescott grader at the storage, with no loss of time before the apples were under refrigeration. The loss of time in drawing to town is not all the loss, as many times at the storage teams must wait one or two hours to unload. We located our storage on the N. Y. C. & H. R. R., within a few rods of a trolley depot, where there was a fine switch having a capacity of eleven cars. The railroad furnished the rails free and put in the track. There are nearly fifty companies in the United States making refrigerating machinery, all practically on the same principle. Some use ammonia, which has to be pumped at a pressure of about 300 pounds to the

square inch. The carbonic acid gas system requires 1,000 pounds, or more, pressure to the square inch. In the ammonia system, should a leak or break occur, the ammonia immediately penetrates the entire plant, damages the contents of the storage and causes serious injury or death to the workmen in the building. Apples, which are supposed to stand odors without absorbing them, sometimes are about ruined by the fumes of ammonia.

"Carbonic acid plants are freer from odor, but the cost of operating is said to be higher. This class of storage requires a two or three-shift engineer force, which is expensive. After thorough investigation I decided the system patented and owned by Madison Cooper of Calcium, New York, was far the best storage for me. The Cooper

system consists of as many tanks as there are rooms for cold storage. These are located on the top floor, each tank being heavily insulated. The tank is full of coiled pipes which connect as directly as possible with its cold storage room, where there is a double set of coils hanging from the ceiling, usually in the center of the room. These pipes are filled with a solution of calcium chloride which is strong enough not to freeze. In one end of the storage we have an ice room holding 800 tons. This ice is fed into an ice crusher by means of an elevator which discharges crushed ice into any tank. As the ice goes into the tank, rock salt is scattered through the ice; the more salt used the more intense the cold. As soon as the solution cools gravity takes the denser brine into the storage room and the warm brine replaces it without pumping. The melted ice and salt finally go through piping in a large basement, cooling the large room there with the drip. The ice room is also piped and can be put to a low temperature. The storage rooms when in use are never warm enough to thaw ice.

"Each of our five rooms is a separate unit and can be run independently of the others. The large basement under the packing room is cold only when ice is being used. Our large attic, insulated and with double windows, will hold several thousand barrels. The attic can be kept cool, as ventilators from each room can be used to furnish cold air. There is a large sixty-inch fan in the attic which draws air from a big ventilator in the roof which connects with a large duct leading to every room. When the air is cold outdoors this fan runs at high speed, forcing cold air to any room desired. By opening vents in the room the warm air is given an outlet. There is also a large air-tight stove which can be fired and the warm air driven to any room through the same cold-air ducts, should a spell of zero weather make any place in the building too cold. Over each set of coil pipes are trays containing lump calcium chloride. As dampness in the rooms is drawn to the chloride it dissolves and drips over the



Orchard of Leon F. Titus, Cashier of the First National Bank, Traverse City, Michigan, consisting of forty-five acres. Mr. Titus has also another orchard set to fruit, consisting of sixty acres. Between the rows of trees are shown string beans growing.

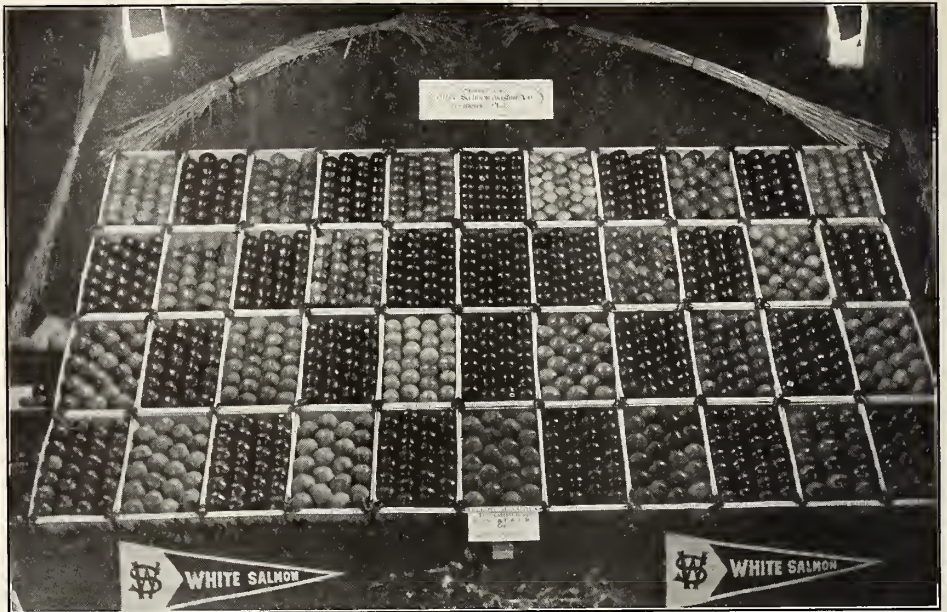
coil pipes, cutting off all frost and allowing the solution to do more efficient service than is possible where the pipes are heavily coated with ice. We try to run 30 to 31 degrees. Once a day for ice and salt supply is enough in warm weather and in cold weather several days or longer is sufficient if the fan is used. We have two gasoline engines, either of which will run the fan.

"The building has a heavy gravel roof, with non-rusting, galvanized iron siding. This does not need painting and is durable. Under this is water-proof, air-tight paper; six inches of fine shavings, then paper; siding; eight inches of shavings; paper; then siding, paper and matched lumber. The floors are insulated in about the same way. A fifteen-horsepower gasoline engine is used for power, and when running connects with a dynamo which charges a big storage battery for lighting, which once installed costs nothing to operate. The main building is 48x70 feet, five stories high. The packing room is 35x50, with skylights on three sides with a large number of windows and doors. The loading platform extends on three sides of the packing room and on the side of main building, giving over 200 feet of platform. Three cars can be loaded at once. The main building holds over 15,000 barrels. It was started late in spring of 1912 and was not completed until after apples were picked. Sweet Boughs and Maiden Blush kept the best we have ever had them in any kind of storage. The Sweet Bough and Maiden Blush took prizes at the Rochester show. There are several other advantages of the Cooper system over other storages, as no water is required after once filling the pipes, except a few gallons once or twice a year; low cost of operating and the dry pine air. Natural ice at a reasonable cost of harvesting is the only requirement."

Apple Market Plan

W. C. Watrous, general superintendent of transportation of the Great Northern Railway, proposes a plan for marketing the fruit crop of the Pacific Northwest. In the four States of Washington, Idaho, Oregon and Montana there are now more than one hundred associations of fruitgrowers.

"These may not all handle apples, but that is immaterial to my plan," says Mr. Watrous in a letter to F. W. Graham, Western industrial and immigration agent of the same railroad. "I would make each of these a collecting agency of the one central selling and distributing agency. This would at once greatly decrease the cost of concentrating and shipping, and instead of an individual association more or less elaborate in its organization, one or two men a part of each year could manage the work at point of origin. Chicago is the logical distributing point for the large part of all apples that are shipped East. Here locate one general selling agent, who should be a high-class distributing expert. This selling agency would be so central that a letter by United States



White Salmon, Washington, Exhibit at the Pacific Northwest Land Products Show, Portland, Oregon, November, 1912. This was an exceedingly attractive exhibit and was purchased by the Great Northern and Northern Pacific Railroads to be used in advertising cars and in the East.

mail could reach most points of consumption within twenty-four hours, a large part within twelve hours and most of them by telephone. If considered advisable, he could have a representative in each of the larger cities to keep him constantly in touch with market conditions and make his sales. I would aim, so far as possible, to sell direct to the retailer, particularly in cities where the retailer could handle a carload.

"I would secure, by lease or otherwise, a piece of land large enough for present and future needs in a Chicago suburb on a belt line, and there erect a large storage warehouse, and to that point I would forward and store every box of apples that was not sold at time of packing. I would so inclose this building as to allow the loading of fifteen or twenty cars at a time, and have the air in the car and the air in the storage plant uniform, so there would be no change of temperature. I would so arrange my loading and my platform as to admit of the least possible disturbance to the fruit. Under this plan of handling and with the fruit moved before the cold weather, the changing temperatures would be very much reduced and the fruit would leave the storage plant in the best possible condition; and located where such a short and quick delivery could be made the fruit could reach any market within a comparatively few hours. All this will take money; but the crop of 1912 for Oregon, Washington and Idaho is placed at 12,000,000 boxes. I believe the local unions now make a flat charge of ten cents a box, so it will cost the apple producers \$1,200,000 to market their 1912 crop. I believe my plan would not cost half that amount. Distributing among 102 unions a small amount of storage stock, sold in each locality, would create a capital to build the storage plant, and a small charge per box would eventually clear any initial debt contracted and pay a good dividend."—Daily World.

Spray Calendar for 1913

The State Agricultural Experiment Station at Pullman, Washington, has just issued Popular Bulletin No. 52, "The Spray Calendar for 1913," prepared by Professors A. L. Melander and H. B. Humphrey. This bulletin, like former spray calendars, gives in condensed tabular form the latest and best remedies for the insect and fungus pests which infest orchard, garden and farm crops, which have been discovered at the experiment stations or in actual field work. This particular "calendar" is more complete than any former one and contains suggested remedies for practically every pest which has been found to occur in this state. Directions are given, not only for the method of applying the spray materials or other remedial measures but also for the preparation of all of the more common of the washes or solutions which are used for spraying purposes. Copies of the bulletin may be obtained free by writing to the director of the Experiment Station, Pullman, Washington.

The Dallas Fruit Growers' Association held its annual meeting on January 13 and elected the following officers to serve during the coming year: President, H. C. Eakin; vice-president, H. S. Butz; secretary, R. M. Ewing; assistant secretary, N. L. Guy; treasurer, H. A. Woods; board of directors, J. S. Parker, W. M. Elliot, J. B. Nunn, Glen De Haven and N. M. Grant.

Americans have been great meat eaters. We are just beginning to realize the value of fruits and vegetables as a diet. Just a few of us are learning that they are more wholesome than meat, and we are just finding out that fruit can be purchased, if retail prices are reasonable, at much less cost than we can secure the same amount of nutriment in a meat diet. What is more, we are learning that fruit and apples are wholesome.

A Better Apple Market or How to Reach the Consumer

By Charles H. Collins

THE need of better markets for Western fruits, and especially apples, has been felt not only by operators but by the growers and all interests that depend upon the success of the grower, that success is marked by the prices obtained for the fruit and the length of time required to convert the crop into money. Quick returns to the grower means prosperity to the community and the country at large; thus we will agree without any dispute that we are all vitally interested in any movement for betterment of markets for Northwest products. Our present methods of marketing were not built up on broad enough lines to effectually cope with the greatly increased output of the past year. Up until this time, as we all know, growers have realized fabulous prices, which were offered to them at their very door, thus no real demand for a national campaign of advertising our fruits to the consumer was greatly needed. We were also fortunate in not having large crops of apples to compete with in Eastern States. Growers must realize that an awakening interest has been displayed among the growers of the East, and as a consequence of this renewed interest a much better quality of barreled apples has been put on the market this year than heretofore. All of these conditions must be thoroughly understood by the growers in the Western States in order that they may more fully realize the necessity of expending considerable energy and money toward making our box apples a household necessity rather than a considered luxury—which to a great extent they are at present considered.

A little illustration showing the comparative profits in many instances can be brought out in the following report, which the writer carefully investigated and followed up. It was a car of extra fancy and fancy Northern Spys, Mammoth Black Twigs, Baldwins, Wageners, etc. The car was in excellent condition when sold, and this is the way it went, showing a net profit to the grower: After paying selling commissions, boxing, etc., but not including growing, of twenty-five cents a box, the profit realized by the jobber was \$1.15 a box and the profit made by the retailer was \$1.75 per box. In other words, the car was sold by the broker to the jobber for \$1.15 a box. The retailer paid the jobber \$2.25 per box and the consumer paid the retailer at the rate of \$4 per box. This is an example of the consumer paying sixteen times as much as the grower received for growing. (One of those concrete examples of the high cost of living.) You can also see why the practical consumer is not breaking his neck to get into the store to buy Western apples, when there is a surplus supply of fairly good barrel apples, handled by these same jobbers at a margin of profit which would average about fifty cents

for a barrel. The above illustration is about what may be expected from a disinterested jobber and an unappreciative consumer. I say "unappreciative," as I mean the trade lacks education as to the superior qualities of our apples or see little or no difference in quality, and if anything favor the barrel or bulk stock.

A great factor which has a damaging influence upon the consumption of our apples is the extortion of such long profits by the jobber and the retailer, which can only be counteracted by an increased consumption in these particular markets. This will make a greater volume of business and consequently the handling on a closer margin will result. My experience is that the jobber and the grower are alike in that they both will take all the profit the trade will stand. If box apples are to become commonly used as we must have them in order to effectually dispose of all of our increasing output each year, a closer figuring on the part of the grower, jobber and retailer must be had in order that the consumer may be able to use our fruit as a staple instead of on rare occasions as he now does. I do not wish to be misquoted in saying that all jobbers are

alike, as such is not the case. In many cases the fruit is handled on close margins by the jobber, but still the cost to the consumer is not reduced inasmuch as the retailer simply takes advantage of the reduced price to lengthen his already long profits. So you see that strong efforts must be brought to bear on the retailer to get our apples handled to the consumer at a living profit, or at such profits as they make on local apples or other fruits. Most retailers show a strong preference to handling barrel or bulk stock and handle box apples just as a side line, as they have such little faith in their selling box apples that they are, of course, not any more of a success than they expected them to be. Thus you are met with lukewarm enthusiasm on entering the door. The retailer bases his opinions on the price and quality he gets for his money. He gets the false idea that because, as he will tell you, his customers are practical people and want the most for their money, they cannot be reasoned with to show the economy of buying fruit that is whole and entirely fit for use, which is considerable more than can be said of the bulk apples flooding the market.



Mr. J. H. Piercy, Horticultural Inspector, Winthrop, Washington.

The bridged tree is a Jonathan set out in 1907 and is known to us as "North 20 West 156." It was girdled by mice early in 1911 and bridged before the spring growth began. The first picture was taken in May, 1911, and the latter one in September, 1912. The tree bore 16 good apples in 1912, being more prolific than the majority of those which were uninjured. This particular tree is at an altitude of 2,270 feet above sea level. The orchard has an altitude from 2,115 feet to 2,350 feet above sea level. The average is about 2,250 feet. The extent of the orchard is about 85 acres with 80 trees to the acre, in the quincunx plan, with the expectation of cutting out the fillers when advisable and leaving 40 trees to the acre, set in 33-foot squares. The land is not irrigated, some of it has to be undermined to make it fit for cultivation, part of it sub-irrigated and part is naturally very dry and hard and full of rock. We are, however, making it all do well through careful planning and hard work. In winter we irrigate the dry parts with snow water and make humus by field pea crops, and we are taking first prizes on our fruits, which, by the way, is better to eat than to look at. Very truly,

GUY WARING.





De Soto Creamery and Produce Company, 69 Nicollet Street, Nicollet Island, Minneapolis. "Our cold storage rooms are modern, having been entirely rebuilt the past year. They have a capacity for 150 ears of apple storage, and also have the best switching facilities in the Twin Cities, as we can place seven ears on our own switch track to be loaded or unloaded, and as we are on the main tracks of the Great Northern Railway it entitles us to the best switching service to be had anywhere."

Would that you could see some of the stuff—I say "stuff" because I really think that a better and more appropriate name than to call them apples—that many retailers fill their best show windows with, stuff more fit to grace the inside of a swill barrel than a show window. Still it goes there and is sold to these practical people who the retailer claims will not pay high prices. In my mind any grocer who can sell such stuff could sell gold bricks without painting them. You find this condition most everywhere. In the fifteen states that I have worked, from the Canadian border to the Gulf of Mexico, I have called upon and done special work among hundreds of retailers like the one illustrated above, many of whom, after much persuasion and as a personal favor rather than anything else, agreed to take on a small lot of our Western apples, and I am glad to report that in most cases they are in the "coming back" class and are now selling box apples to their practical customers. But I would like to mention here that where we got the retailer to handling Western apples on a common profit we have made much greater success in our increased sales, which proves to us that when once the retailers' prejudice is overcome and the consumer is made to understand Western box apples are more economical and satisfactory we will have a ready and ever-increasing market established.

The most effectual way to get at anything is to get to the bottom, and the one at the bottom in this game is the consumer. Therefore we must spend our money and efforts in educating the consumer up to the advisability of buying a better article at a slightly higher price. The advisability of a community plan to assess the marketable crop of the Western fruit-growing states for an amount sufficient to carry on a nation-wide publicity campaign

along the lines of practical demonstration of a hundred ways to use our apples is necessary. Great benefits may be obtained by the judicious use of newspaper advertising, and large displays exhibited in big cities are also very effectual in increasing consumption. Before any advertising should be done we should adopt a uniform label or a conspicuous trade mark on our label so as to give the consuming public something to ask for. I also believe that it will be necessary to put a trade mark on the wrappers as well, as most apples are sold by less than the box, in which case apples lose their identity unless each individual apple be trade-marked.

An "All-Western-Men" selling agency should be established in the East to sell Western products. I refer to all Western-men as I believe they are better acquainted with the article they are selling, and should be, if they are not, vitally interested in the Northwest fruit industry. These two requirements are necessary to make good. In the past year we have seen a most expensive system of disposing of our apple crop tried out. Dozens of personal representatives direct from the West have been traveling over the same ground, under the same expense, and in many cases coming into fearful competition with one another which could have been eliminated to a great extent had a systematic division of territory been assigned. More uniform and better prices could have been netted the grower had there been a closer understanding among the operators of the box-apple business. Without question the greatest damage to the box-apple business was "tramp" cars being consigned promiscuously to brokers who were working in the interest of the dealers at his end of the line rather than in the interest of the operators at the producing end. Once a market is

upset by these cut-throat prices made on "tramp" cars it is almost impossible to again get anything like a fair price for the fruit. The time has come when with any system of marketing, whether it be done through associations or through independent shippers, the people giving the best results in dollars and cents to the grower are the ones who must be encouraged and supported. Growers should awake to the fact that results are what should be shown, rather than statistics showing the volume of business done. Generally speaking, conditions are good throughout our marketing states, and figures show that more apples have gone into consumption in a like time this year than any year previous. A great mistake which will mean hundreds of thousands of dollars to the pockets of the growers of the West was in putting too high a price on the apples in the opening season, causing our apples to be slow in reaching the markets, consequently losing several months of the apple-eating season. Had the growers understood the enormous apple crop of the East they would have made every effort to put their stuff into consumption at prices which would attract the buyers. There are still many things to criticise, viewed from the selling end, which should be known by the growers but which are too lengthy to be taken up at this time. Summing up the condition and its remedy in a few words, we might say that the keynote to our success must be in making the consuming public eat more apples—and that the apples so consumed are our apples.

The Farmers' National Congress.—The objects outlined by a new constitution adopted by the Farmers' National Congress are to affiliate all societies for action along lines of broad country life questions; to aid in establishing state and local organizations; to secure co-operation among producers; to aid in general and vocational education of farmers and to aid the passage and execution of laws which will promote country life. The secretary is J. H. Kimball of Port Deposit, Maryland. This is a broad movement in the right direction and farmers' organizations that want to secure information can do so by addressing the secretary, Mr. Kimball.

Children Must Do the Work.—Last year many shows were held throughout the country. Prizes were offered to children for their exhibits. The child was required to do the work. As a result, it is stated, about 60,000 children of the United States engaged in producing something on the farm last year. Such work is stimulating, it is educational and is teaching the children in the right direction at the right time to become industrious. The movement is very general and it is estimated that 125,000 children will do something to enter into these various contests during the year 1913.

More Attention to the Necessity of Cold Storage Facilities

An Address by the Assistant Editor of "Better Fruit" at Grandview, Washington

ALL of the fruit-growing sections, up to the present time, have devoted nearly all their time to planting orchards, cultivating, pruning, spraying and bringing them into bearing. Those who have had bearing orchards have devoted all of their time in an endeavor to produce high-class fruit, and comparatively little or no attention has been given to marketing, distribution, transportation or cold storage. The large crop of apples in 1912 and the prices resulting from a lack of a selling and distributing system brought about results that were not anticipated. In fact prices have prevailed so low that deeper thought is being given this subject. Most everybody's attention is now centered on marketing and distribution. Equally important with this is cold storage. In Yakima there is a cold storage plant which, I think, will hold about 250 cars. This is the only cold storage plant in the fruit-growing sections in the Northwest that I know of except in Hood River. Hood River was the first to realize the importance, in fact I might say the necessity of cold storage. In 1909, when I was on the board of directors, our association erected a large cold storage plant. We have increased our capacity so that at the present time there is in Hood River cold storage capacity for 600,000 boxes, or 1,000 cars. The needs of all of the fruit-growing sections of the Northwest are more or less similar in reference to cold storage.

Do we need cold storage, and why? This year, although figures are not yet in for the total number of cars produced in and shipped from the different sections, in all probability the State of Washington will ship about 10,000 cars, the State of Oregon about 3,000 cars, the State of Idaho about 2,000

cars, which is 15,000 cars in all. In order to lay apples down at destination in good condition they must be shipped from a district in prime condition. If an apple is to be stored for future use, when it goes on cold storage it must be in perfect condition or else the keep is foreshortened. In other words, a winter apple which is to be put on cold storage should be placed there immediately after packing. The more delay there is in getting an apple into cold storage the less time it will keep. We realize that we cannot sell all of our apples immediately and some must be placed in cold storage. If we do not have cold storage at home we must get cold storage in transit, at diversion points, or at the place where we wish to dispose of the fruit. Can we get enough cars as we need them to do this? Few people know how many it will require. I am informed by the railway officials that the Oregon-Washington Railroad & Navigation Co., the Northern Pacific and the Great Northern in the year 1915 will be able to handle, combined, 10,000 refrigerator cars per month. With this year's crop alone that would mean, if we had no cold storage at the present time, that part of the crop would have to remain in ordinary storage for six weeks before being under refrigeration. If in 1915 we should have 50,000 cars in these three states it will be evident that it would require five months for the railroads to move them, which would mean of this amount 40,000 boxes would not be on ice for sixty days after they were picked, 30,000 for sixty days, 20,000 boxes for ninety days, and 10,000 boxes would not be on ice for four months; consequently the larger proportion of our apples would become so thoroughly ripe that they would not keep and the loss would be

incalculable. It therefore seems evident that cold storage is a matter of vital importance, in fact a necessity. In 1908 we anticipated the necessity of cold storage in Hood River and decided to build. At that time the Hood River Apple Growers' Union had a capital stock of \$2,500. In order to build we had to raise the necessary amount of money by increasing our capital stock and selling bonds. In order to get the cold storage ready for the fall of 1909 we had to begin work immediately, consequently the board of directors undertook the problem. I was on the board at that time. After we discussed the matter thoroughly, although we had only a capital stock of \$2,500, and no money on hand, I addressed the board of directors, saying, "I think you gentlemen are convinced that we need cold storage. If we need it we must build it, and if we build it we must pay for it. I am ready to vote." The board of directors voted unanimously to build a cold storage plant and let the contract for \$46,000. We increased the capital stock to \$25,000 and sold bonds for \$22,000. Since then we have increased the cold storage capacity until now, as I have stated, we have cold storage for about 600,000 boxes, or 1,000 cars. We will increase this capacity as our crop increases. There are about 13,000 acres planted in Hood River Valley at the present time. Our crop was about 600,000 boxes this year. I presume that possibly about one-fifth of the acreage is in bearing. Just how much cold storage each district will need in proportion to the entire crop is a problem that remains to be worked out. It will depend on car service the railroads will be able to render, which is again an indefinite proposition at the present time. However, it seems to me that a district ought to have cold storage sufficient to take care of about one-half of its crop. While I have stated emphatically that cold storage is a necessity for the reason the railroads will not be able to transport the crop fast enough to prevent loss, there are other reasons, which are worthy of consideration, which I will enumerate briefly:

First: Cold storage at home can be erected on cheap ground in every one of the apple-producing sections. Cold storage in Eastern cities, as you know, is on ground sometimes worth hundreds, sometimes worth thousands per foot, and therefore will be expensive compared with home cold storage. Second: Cold storage in transit must pay a profit to the company owning the cold storage plant, while the cold storage at home can be conducted without profit. Third: Cold storage in transit requires extra handling of the fruit and reloading of cars. Every time fruit is handled an extra time it means just so much additional unnecessary bruising. Fourth: Cold storage in transit creates an increased expense on account of switching charges, which is five cents per box. Fifth: Cold storage



Rogerson Cold Storage at Le Roy, New York—Frey-Watkins Company, Inc., Rochester, Managers. Boxed apples stored in the East find a market not only in the large cities, such as New York, Boston and Philadelphia, but can be jobbed in straight and mixed cars at good prices throughout the South and Southwest and for export. Red varieties are in good demand from the South and Newtowns from the exporters. We would not advise shipping early varieties of fruit that have been packed any length of time. If interested in apple storage in the East, get in touch with the Hilton Cold Storage, Hilton, New York, capacity 80,000 barrels, or the Rogerson Cold Storage Company, Le Roy, New York, capacity 50,000 barrels, through its president, John B. Frey, of Frey-Watkins Company, Inc., Rochester, New York, for twenty years car lot jobbers of fruit and produce.



Exhibit of Sebastopol Apple Growers' Union, Sebastopol, at the California Apple Show, 1912. This contains fifty boxes of Gravensteins.

in transit does not give us the opportunity of our own personal inspection, therefore we are not protected like we would be if we had our own inspection against unjust claims which occur occasionally, as you know. Sixth: If for any reason apples stored in transit should not keep perfectly, we do not have at cold storage in transit the proper facilities for repacking, nor do we have experienced men to do this work, which would mean another serious loss to us. Seventh: In placing our apples in cold storage in transit we are not in a position to load our cars from these in transit points to meet the requirements of the buyer in a satisfactory way like we could if we had our cold storage at home. As you know, dealers want their orders filled exactly as placed. We must do this in order to get the best price. Trade buyers will order a straight carload of four-tier extra fancy "Winesaps"; they want just what they order and nothing else. They do not want part of the car "extra fancy" or "choice," nor do they want part four and one-half tier and part five tier. If we have our apples stored at point of shipment then we are in a position to fill the orders exactly as we have received them, and thereby obtain much better prices and give the dealer better satisfaction. We must always endeavor to give the purchaser and consumer in our business just what he wants if we expect to get the best price. Eighth: If our apples are stored in transit many times we receive orders for carloads from cities west of the cold storage point or in some other direction. This means extra freight—another extra expense. If our apples are stored at home then we are in a position to route the car in the most direct manner at a minimum rate without paying extra freight. Ninth: Another reason, and a very important one on account of finances, if our apples are stored in transit we must pay in advance, or have it advanced by the purchaser, which we do not want to do when avoidable, the freight and icing, which would be 60 cents per box, or \$360 per car. If a district ships 1,000 carloads, this would

mean the district in order to pay the freight would have to borrow \$360,000. You all know that we are going to tax our banks and our own finances to the limit in coming years in financing our apple crop. The harvesting expense is a big one. If we have our cold storage plants at home we will only require the banks to finance the expense of the harvesting, which is estimated around forty cents per box. If in addition to this we have to pay freight and icing to get our apples to the East we have to borrow sixty cents per box additional. In other words, if our apples are stored abroad we have to borrow more than twice as much money as we do if we have an ample supply of cold storage at home.

I will sum up part of the saving, which frankly is very indefinite, embodied in some of these nine reasons. The saving of switching charges would be five cents per box; the saving of reloading would be about four cents per box; the saving on cold storage at home on inexpensive ground without profit compared with cold storage in transit on expensive ground with profit would probably be an average of six cents per box, more or less, as some apples will go on cold storage for a short time and some for the entire season, making a total saving probably of twenty cents per box; the saving may

be considerably more than that, but even this is a great big sum to save, and you must always bear in mind that twenty cents saved is better than twenty cents that we expect to get in the way of additional price. Permit me to say that what I have said about cold storage was dictated just as I was leaving for Portland and I regret to say that I did not have time to revise it, therefore I trust you will pardon the crude way in which I have expressed myself. I realize that I have not covered the situation as thoroughly as I would like to, yet I believe I have briefly referred to the chief reasons for the importance of cold storage at points of shipment, as compared with cold storage in transit. Permit me to say in addition to this that cold storage at home does not mean that we will not need cold storage in transit, at diversion points or at marketing centers. It always has been and always will be a necessity for us to use cold storage in transit at diversion points and close to big marketing centers. We must have the necessary quantity of apples near the consuming centers, so that we can reach them quickly. I believe that each district will need cold storage at home to take care of one-third to one-half of its crop; that it will use Eastern cold storage for perhaps one-third to one-half of the crop and will sell one-third to one-half of the crop during harvesting season. The earlier varieties will be marketed immediately, without necessity of cold storage. The requirements will vary in the different districts in accordance with varieties grown and markets, and will also vary annually in accordance with market conditions at shipping time during the season.

Home Cold Storage Saves Rushing to Market

Mr. E. J. Murphy of Chelan, Washington, states that the storage in holding of fruit in proper condition is as important as the selling, without which sales could not be effected at satisfactory prices. Without cold storage at home small fruitgrowers, particularly those who are in need of money, are compelled to rush on the market, which causes a glutting and creates lower prices than the situation justifies.



Hood River Apple and Storage Company's Cold Storage Plant. Cold storage capacity of 150,000 boxes.

In 1918—What?

By R. E. Olds, Designer

Many a car will run well for one summer. But in five years from now where will flimsy cars be? And what will they cost in the meantime?

"Dear Mr. Olds: I have run one of your cars for 75,000 miles, and it still runs as well as any new car I know."

That's from one of the letters which come to me constantly.

And legions of men saying such things to others give to my cars the place they hold after 26 years of car building.

It Isn't Easy

It isn't easy in these days of fierce competition to build a really honest car. In Reo the Fifth it means \$200 more than such a car need cost.

And nearly all that extra cost is hidden. It is years, sometimes, before users learn its meaning.

Note what it means to the maker. He must have all steel made to for-

mula. To make sure of its strength he must analyze it twice.

Each driving part must be given all the strength it needs, then 50 per cent extra strength must be added.

He must use big tires—we use 34x4—to cut down tire upkeep. He must use roller bearings—we use 15—where common ball bearings cost one-fifth as much.

To escape all flaws he must use drop forgings. We use 190. He must use a \$75 magneto—a doubly-heated carburetor—big brake drums, big springs.

He must test his gears in a 50-ton crusher. He must test his engines for 48 hours in many radical ways.

And he must have scores of inspectors and testers watching every part of that car.

To the User

To the user it means an almost trouble-proof car. A car with low cost of upkeep. A car that meets every strain.

A car that continues, year after year, to render perfect service. And a car that saves hundreds of dollars in repairs, upkeep and trouble.

You get all this in Reo the Fifth, and countless users know it. And you get it at an underprice. For all this extra cost is saved by our wonderful factory efficiency.

We save 20 per cent in one way alone—by building a single model. Every machine and tool in this factory is adapted to this one car.

And we make all our own parts. That's how a car such as I describe can be sold at the Reo price.

New Control

This car has our new control. All the gear shifting is done by one center rod, entirely out of the way. It is done by moving this rod only three inches in each of four directions.

There are no levers to clog the way of the driver. Both brakes are operated by foot pedals. And this car, like all the leading cars, has the left side drive.

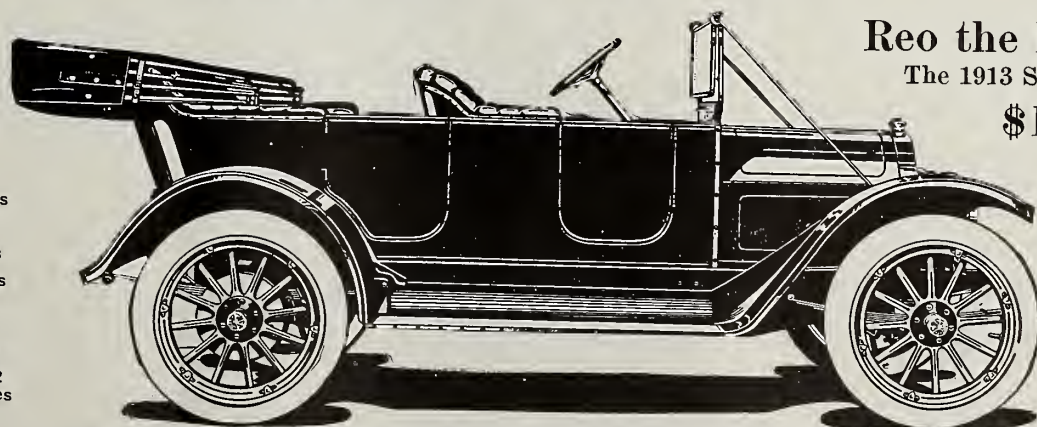
Write for our catalog and we'll direct you to the nearest Reo showroom. They are everywhere.

R. M. Owen & Co., General Sales Agents for Reo Motor Car Co., Lansing, Mich.

NORTHWEST AUTO COMPANY, 615 Washington St., Portland, Ore., Distributors for Oregon and Washington

CANADIAN FACTORY, ST. CATHARINES, ONTARIO

30-35 Horsepower
Wheel Base—
112 Inches
Tires—34x4 Inches
Center Control
15 Roller Bearings
Demountable Rims
Three Electric
Lights
190 Drop Forgings
Made with 5 and 2
Passenger Bodies



Reo the Fifth

The 1913 Series

\$1,095

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank for headlights, speedometer, self-starter, extra rim and brackets—all for \$100 extra (list price \$170). (Gray & Davis Electric Lighting and Starting System at an extra price, if wanted.)



Davidson Fruit Company, Hood River, Oregon, Brick Cold Storage Plant.
Two stories and basement. Capacity 100,000 boxes. Length 225 feet.

Wenatchee Valley Fruitgrowers' Association

WENATCHEE Valley Fruitgrowers' Association shipped close to one million boxes this year, approximately 1,400 carloads. The Wenatchee Republic compiled a very interesting summary of the year's business, and from this some very valuable conclusions can be drawn, and therefore it should be read with interest by fruitgrowers in all sections because we are all working with one and the same object in view, that of supplying the market with what the market demands and for which the market will pay a satisfactory price, which will afford growers a sufficient profit. One of the main features in the report is that the association handled 129 varieties, of which practically 111 are considered not to be sufficiently valuable in a commercial way to justify either producing or shipping, leaving eighteen varieties as money makers.

Reports from various associations in this issue indicate the prices that have been received for various varieties of apples of different grades and sizes, and from these everyone interested in the fruit business should be able to determine what are the profitable varieties to grow, what grades and sizes bring sufficient money to justify packing and shipping. According to the Wenatchee report about 25 per cent were C grade. This percentage would have been greater had it not been for the excellent showing made by Winesaps. Another object lesson is to be drawn from this statement, and that is had the percentage of Winesaps been greater the quantity of C grade would have been less. About 62 per cent of the crop was extra fancy, 12 per cent fancy, 26 per cent C grade. Winesaps

ran less than 14 per cent C grade, Ben Davis about 30 per cent C grade, Staymen Winesaps 20 per cent C grade, Baldwins 50 per cent C grade and Northern Spy 70 per cent C grade. The following is the percentage of each variety grown, and indicate that Jonathans were the first in quantity, being 18 per cent of entire shipment, with Rome Beauty next with 13 per cent and Winesaps at 12 per cent: Aristo Black, Ganos and Black Bens, 9 per cent; Staymen Winesaps, 9 per cent; Spitzenbergs, 7 per cent; Ben Davis, 6 per cent; Black Twigs, 4 per cent;

Arkansas Blacks, 2 per cent; Grimes Golden, 2 per cent; White Winter Pearmain, 2 per cent; Yellow Newtowns, 2 per cent; Delicious, 1½ per cent; King David, 1 per cent; Baldwins, 1 per cent; Missouri Pippins, 1 per cent; Delaware Reds, 1 per cent, and miscellaneous varieties were 8½ per cent, totaling 111 different kinds of commercially impossible apples.

The quantities of the different grades are given in the tabulated list below of the principal varieties, Jonathans being the greatest with 161,055 boxes, with Rome Beauties next with 112,613 boxes and Winesaps next with 111,022 boxes. The list of the number of boxes of the different grades is given for all varieties of each quantity down to Delaware Reds, of which there were 8,789 boxes. Of the other 113 varieties handled by the union the next greatest quantity in one variety was 5,000 boxes, varying in quantity from 5,000 boxes down to one box of a single variety called the Canfield.

Name	Ex. Fancy	Fancy	C Grade
Aristo Black, Gano and			
Black Ben	56,419	6,019	20,454
Arkansas Black	16,622	358	3,541
Baldwin	3,031	929	3,723
Ben Davis	36,091	4,816	17,502
Black Twig	19,761	5,553	12,086
Delaware Red	6,208	205	2,376
Delicious	9,418	2,448	2,951
Grimes Golden	12,718	197	6,245
Jonathan	88,606	35,244	37,205
King David	4,149	1,836	3,381
Missouri and Mam-			
moth Pippin	5,225	1,639	2,096
Rome Beauty	62,095	14,621	35,897
Spitzenberg	43,910	4,673	10,823
Stayman Winesap	53,254	8,936	15,523
W. W. Pearmain	16,529	17	3,911
Winesap	80,609	15,985	14,428
Newtown Pippin	10,991	432	6,959

Editor Better Fruit:

We just want to say, Mr. Shepard, what we have said heretofore, that you are certainly putting out a good paper. The people ought to be well pleased with it, and we guess they are. Yours truly, Bean Spray Pump Co., San Jose, California.

Editor Better Fruit:

I am herewith renewing my subscription to "Better Fruit." The magazine is of much advantage and information to me. Yours truly, A. P. Romine, Neppel, Washington.



National Apple Company, Hood River, Oregon, Cold Storage Plant.
Four stories. Cold storage capacity 125,000 boxes.

No-Rim-Cut Tires *10% Oversize*

Not Built Like Old-Time Tires

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And now, after fourteen years of betterments, scores of our experts spend all their time on research and experiment.

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To get a fabric which would stand all strains, 200 fabrics were tested out, and mileage results recorded.

These comparisons have gone on for years and years. And they still go on night and day. For we know that no tire can lead in sales unless it also leads in mileage.

What They've Done

This research department cost us about \$100,000 per year. On this year's output that's about five cents per tire.

But note the result:

All the remarkable mileage you get from Goodyear tires is due to this ceaseless improvement.

No-Rim-Cut tires—the tires that end rim-cutting—were developed in this shop. With the old-type tires 23 per cent met with rim-cut ruin.

And from this shop came the 10 per cent oversize, which adds one-fourth to the average tire mileage.

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In these days of odometers, men know which tire serves best. And that tire alone can outsell all others.

Under this test Goodyear tires have outsold every other tire in existence.

And the sales have doubled over and over, as the tires became better known. Last year's sale by far exceeded our previous 12 years put together.

That's the result on actual use, on hundreds of thousands of cars. And you'll adopt them, like the rest, when you once try them out.

Average Profit \$2.90 Per Tire

Here's another reason why you get so much in a Goodyear tire. Our average profit last year was but \$2.90 per tire.

Goodyear tires cost all the way from \$15.55 to \$104.95, according to size and type. The most popular size—34 x 4—costs from \$32.95 to \$37.90, differing with type and treads. And our average profit on all these tires was exactly \$2.90 per tire.

That's why you get at the Goodyear price tires with so much mileage. Tires that can't rim-cut—oversize tires. This is due to the fact that so much of the cost goes into things that count.

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With or Without Non-Skid Treads

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The Yakima County Horticultural Union

ACCORDING to the manager's report the Yakima Horticultural Union handled during the season 718 cars of fruit as follows: Apples, 401; peaches, 166; pears, 73; cherries, 13; prunes, 29; grapes, 3½; apricots, 3; berries, 1½. During the year merchandise in the form of materials used by the growers was handled to the extent of \$83,514.05, which consisted of box material, 59 cars; paper, 11 cars; nails, 1 car; tin top, 1 car; grape boxes, 1 car; spray material, 12 cars. The following is a statement of the prices realized on the different varieties of fruits during the different seasons, and on the apple crop so far as sold at the time the statement was made. All of which will prove very interesting to the fruitgrowers in all districts, and therefore we are publishing the manager's report in detail below:

Up to and including July 11.—Cherries, 10-pound boxes, Royal Anns, 30c; Bings, 57c; Centennials, 30c; Black Hawks, 65c; Lamberts, 73c; Morella, 40c; Black Republican, 63c Black Tartarian, 35c. Cherries, 20-pound boxes, Royal Anns, 72c; Bings, \$1.33; Black Hawks, 58c; Lamberts, 84c; Richmond and pie, 65c; Black Republicans, 84c. Cherries, 24-quart crates, Royal Anns,

76c; Bings, \$1.34; Centennials, 82c; May Dukes, 88c; Royal Dukes, \$1.21; Late Dukes, 95c; Black Eagle, 86c Lamberts, \$1.59; Major Francis, 78c; Montmorency, \$1.21; Morella, \$1.43; Olivet, \$1.11; Ox Heart, 76c; Richmond and pie, \$1.02; Tartarian, 99c; Governor Wood, 97c; Black Caps, \$1.52; Raspberries, \$1.00; Black Republican, \$1.58.

July 12 to August 20.—Peaches—Elbertas, 39c; Greensborough, 39c; other varieties, 31c. Plums and prunes—Tragedy, 60c; Italian, 60c; plums, all, 45c. Apricots, 40c. Apples—Gravensteins, fancy, 75c; Gravensteins, other grades, 65c; other varieties, fancy, 70c; cooking, 65c. Pears—Bartletts, fancy, \$1.00; Bartletts, 80c; Flemish Beauty, 75c; Clapps, 73c. Crabapples—Transcendents, \$1.00; Whitneys, 68c; other varieties, \$1.00; Crabs, peach boxes, 55c. Black Caps, \$1.00. Cherries—Late Dukes, 24-quart crates, 85c; Late Dukes, 20-pound boxes, 60c; Black Republicans, 24-quart crates, \$1.40; Black Republicans, 10-pound box, 60c; pie cherries, 20-pound boxes, 60c; Royal Anns, 10-pound boxes, 30c; Royal Anns, 20-pound boxes, 70c; Royal Anns, 24-quart crates, 70c.

August 21 to 24.—Pears—Bartletts, fancy, \$1.00; other grades, 80c; Flemish

Beauty, fancy, \$1.00; other grades, 80c; Clapps Favorite, 80c; Fall Butters, 80c; Clairegeau, 85c. Peaches—Elbertas, 40c; Golden Clings, 28c; other varieties, 35c. Plums and prunes—Bradshaws, Hungarians, 56c; Golden, Silvers, 47c; Italians, 60c; other varieties, 49c. Nectarines, 47c. Apples, cooking, 52c. Crabapples, \$1.02. Tomatoes, 50c.

August 24 to 31.—Peaches—Elbertas, 35c; other varieties, 32c. Plums and prunes—Bradshaws, Hungarians, etc., 60c; Italians, 50c; plums, 58c. Nectarines, 45c. Pears—Bartletts, extra fancy, 95c; other grades, 77c; Flemish Beauty, 77c; other varieties, 85c. Crabapples, 96c. Grapes, 22c. Apples—Jonathans, \$1.25; Hydes King, \$1.08; other varieties, 58c.

September 1 to 30.—Peaches—Elbertas, 18c; other varieties, 18c. Plums and prunes—Italians, 40c; Hungarians, 43c; French prunes, 42c; Silvers, 40c; plums, 32c. Pears—Bartletts, 82c; Flemish Beauty, 66c; Winter Nelis, \$1.07; Anjous, extra fancy, \$2.10; fancy, \$1.95; other grades, \$1.53; Fall Butters, 99c; other varieties, 83c. Nectarines, 41c. Grapes, 14c. Blackberries, \$1.00. Crabapples, 98c. Apples, 55c.

Average prices realized for the apples sold, for which payment had been received, up to January 31, are here given, and there is also a statement of the fruit on hand on January 11. Since that date, while prices have not changed materially, there have been considerable shipments, so that the fruit held totals about as above given by Mr. Samson. Herewith is a statement of prices, etc., on the apples disposed of, the C grade lot, in its entirety, being the first lot and then the extra fancy and fancy lots, with the size, number of boxes and the average figure are given:

Grade	Size	Boxes Sold	Variety	Average	On Hand	Grade	Size	Boxes Sold	Variety	Average	On Hand
C grade	4-4½	42,303	Assorted	.60	8,089	Fancy	5	100	Newtowns	.65	....
	5		Assorted	.50	....	Extra Fancy	4	994	Arkansas Blacks	1.55	....
	1-4½		Bens	.45	....	Extra Fancy	4½	284	Arkansas Blacks	1.40	680
Extra Fancy	4	10,113	Jonathans	.87	....	Fancy	4	383	Arkansas Blacks	1.22	....
Extra Fancy	4½	1,545	Jonathans	.81	....	Fancy	4½	557	Arkansas Blacks	1.02	....
Fancy	4	3,385	Jonathans	.74	1,886	E. F. and Fancy	All	3,784	Wagner	.64	2,699
Fancy	4½	1,654	Jonathans	.69	....	Extra Fancy	4	1,217	Black Twig	1.02	....
Fancy	5	485	Jonathans	.60	....	Extra Fancy	4½	120	Black Twig	.83	....
Extra Fancy	4	3,719	Grimes	.91	....	Fancy	4	973	Black Twig	.74	759
Extra Fancy	4½	754	Grimes	.82	....	Fancy	4½	196	Black Twig	.72	....
Fancy	4	1,781	Grimes	.61	1,460	Extra Fancy	4	569	Gano & Bl'k Ben	.99	....
Fancy	4½	448	Grimes	.60	....	Extra Fancy	4½	25	Gano & Bl'k Ben	.80	....
Fancy	5	10	Grimes	.50	....	Fancy	4	535	Gano & Bl'k Ben	.82	2,298
Extra Fancy	4	1,595	Stayman	1.21	....	Fancy	4½	149	Gano & Bl'k Ben	.72	....
Fancy	4	526	Stayman	.91	1,387	Extra Fancy	4	633	R. C. Pippin	.97	....
Fancy	4½	2	Stayman	.80	....	Fancy	4-4½	99	R. C. Pippin	.79	2,665
Extra Fancy	4	2,570	Rome Beauty	1.19	....	E. F. and Fancy	All	606	Delaware Red	.60	1,185
Extra Fancy	4½	210	Rome Beauty	.98	7,453	Extra Fancy	4	76	Delicious	1.47	None
Fancy	4	1,103	Rome Beauty	.89	....	Fancy	4	87	Delicious	.93	....
Fancy	4½	296	Rome Beauty	.80	....	E. F. and Fancy	4	739	Northern Spy	.65	63
Extra Fancy	4	3,694	Spitzenberg	1.33	....	E. F. and Fancy	4½	186	Northern Spy	.62	....
Extra Fancy	4½	1,022	Spitzenberg	1.16	....	E. F. and Fancy	All	537	Senator	.61	217
Fancy	4	1,243	Spitzenberg	1.02	4,749	Extra Fancy	4	133	Bellflower	1.05	....
Fancy	4½	183	Spitzenberg	1.02	....	Extra Fancy	4½	26	Bellflower	.82	681
Fancy	5	168	Spitzenberg	.50	....	Fancy	4-4½	315	Bellflower	.60	....
Extra Fancy	4	274	York Imperial	1.07	....	E. F. and Fancy	All	244	Hydes King	.60	None
Extra Fancy	4½	27	York Imperial	.91	1,110	Extra Fancy	4	86	Blue Pearmain	.82	....
Fancy	4	349	York Imperial	.80	....	Extra Fancy	4½	14	Blue Pearmain	.73	None
Fancy	4½	113	York Imperial	.68	....	Fancy	4	108	Blue Pearmain	.63	....
Extra Fancy	4	1,769	W. W. Pearmain	.98	....	E. F. and Fancy	All	318	Greening	.88	1,597
Extra Fancy	4½	1,402	W. W. Pearmain	.83	....	E. F. and Fancy	All	851	Ruby	.60	39
Fancy	4	460	W. W. Pearmain	.92	1,558	Extra Fancy	4	259	Baldwin	.76	....
Fancy	4½	440	W. W. Pearmain	.83	....	Extra Fancy	4½	50	Baldwin	.64	1,433
Fancy	5	126	W. W. Pearmain	.60	....	Fancy	All	1,259	Baldwin	.60	....
Extra Fancy	4	2,863	Winesaps	1.35	....	E. F. and Fancy	All	1,119	Ben Davis	.60	24,058
Extra Fancy	4½	1,165	Winesaps	1.25	11,478	Fancy	4	51	Missouri Pippin	.73	....
Fancy	4	742	Winesaps	1.10	....	Fancy	5	13	Missouri Pippin	.63	1,782
Fancy	4½	1,201	Winesaps	.92	....	Extra Fancy	....	15	Banana	1.25	None
Fancy	5	502	Winesaps	.70	....	E. F. and Fancy	All	183	Salome	.60	1,853
Extra Fancy	4	3,685	Newtowns	1.20	....	Extra Fancy	4	49	Nonesuch	.77	272
Extra Fancy	4½	872	Newtowns	.83	....	Extra Fancy	....	22	Lady	2.25	....
Fancy	4	231	Newtowns	.86	3,933	Fancy	....	51	Lady	.72	None
Fancy	4½	229	Newtowns	.81	....	E. F. and Fancy	All	1,283	Odd varieties	.60	557

Flowers Bloom Every Month

Thanks to Felicia H. Worsley of Svensen and August Hildebrand, park commissioner for Astoria, we learn that certain flowers bloom every month in the year, the whole twelvemonth round in Oregon. Commissioner Hildebrand has prepared the following list of flowers and shrubs which may offer suggestions for the improvement of many yards for those who delight in floriculture:

January

Oregon grape (state flower), English laurel. English ivy, Lawson's cypress. Japanese quince, snowberry. Laurustinus, bamboo.

February

Common daisy, privet (evergreen used for hedges). Crocus, Japonica (variegated). Primrose. Violets, flowering currant.

March

Daffodils. Pansy, candytuft (evergreen). Lily of the valley, daffodils (Von Zion). Wallflowers, tulips (Duc Van Thol).

April

Tulips (Kaiser Krone). Hyacinth, Star of Bethlehem. Flowering almond, parrot tulips. Forget-me-nots, early yellow narcissus. Magnolia.

May

Narcissus (Poeticus). Pinks (Clove), wisteria. Iris (white), bleeding heart. Common snowball, Scotch broom, hawthorn.

June

Weigelia (R. variegated), lilac, laburnum. Rhododendron, mountain laurel. Crimson rambler, Japanese snowball. Peony, roses, yucca.

July

Sweet peas, roses (Caroline Testout, Mme. Alf. Carrier). Daisy (Shasta), honeysuckle. Hollyhocks, sweetwilliam. Carnations, mountain ash (in blossom). Spiraea, foxgloves.

August

Golden banded lily, hardy phlox, mignonette. Aster (city flower), snapdragon. Hydrangea (blue, country flower), Japanese iris, Canterbury bells.

September

Dahlias, golden glow. Gaillardia, begonias, bachelor buttons. Hardy sunflowers, poppy. Chrysanthemums (pompon), anemone. Clematis (Jackmanii), common elder (red berries).

October

Cosmos, Virginia creeper (foliage). Mountain ash (berries), Japanese barberry (foliage). Pampas grass, boxwood. Japanese maple, sweetbriar (seed haws).

November

Nasturtiums, maidenhair fern (five finger). Marigolds, ribbon grass. Elk brake.

Chile pine (monkey tree). December Portugal laurel, high brush cranberry. Cryptomeria (Elegens), cedar, buffalo berry. Irish yew, Siberian dogwood. Holly, kinnikinnick (Indian). Spruce (Colorado blue), rock moss.

Yakima Valley Fruitgrowers

At the annual meeting of the Yakima Valley Fruitgrowers' Association the following officers were elected: J. H. Robbins, manager; Martin E. Olson of Parker, president; George E. Johnson, North Yakima, first vice-president; V. G. Merrill of Emerald, second vice-president; J. E. Shannon of North Yakima, treasurer; P. D. Spencer of North Yakima, auditor. The following trustees were elected: Frank E. Sickles, Naches; L. B. Parsons of North Nob Hill, J. J. Rudkin of Kennewick, F. F. Morris of Grandview, O. S. Follansbee of Zillah and Dr. A. J. Pressy of Selah.

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We can do what other makers can't. We created no new business

when we started making automobiles. We had 10,000 dealers and 65 Branches before a car was sold. We saved that selling expense. We saved officers', sales manager's and advertising department salaries, rent and other overhead charges.

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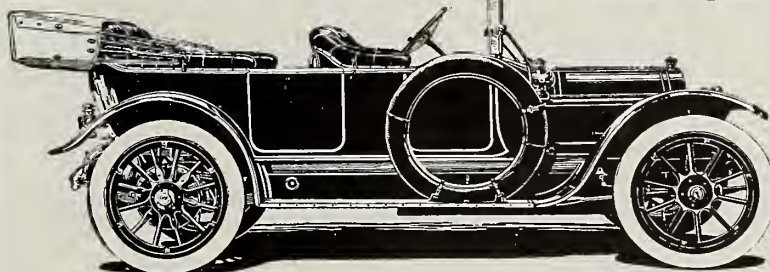
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PUBLISHED IN THE INTEREST OF MODERN

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under Act of Congress of March 3, 1879.

provide a way of taking care of the apples as fast they are picked by placing them in cold storage until cars can be obtained for shipment. The only means of doing this in perfect condition is for each district to be adequately supplied with cold storage facilities. While each district must figure out for itself the amount of cold storage space required, it seems one is at least justified in assuming that on account of railroad facilities that it will be advisable to provide cold storage for about one-half of the crop of winter apples.

Hood River realized the importance, in fact the necessity, of cold storage in the year 1908, consequently began erecting cold storage plants in 1909. Since then additional cold storage plants have been built. At the present time there is cold storage capacity in Hood River for approximately 600,000 boxes. The present capacity will take care of more than one-half of the crop for 1913. Additional cold storage plants will be built as the crop increases to meet the necessary requirements. Cold storage is a matter of protection with the fruitgrower and a necessity to maintain apples in the proper condition up to the period for which they are ready for consumption. The reasons for cold storage are set forth in an article which appears elsewhere in this edition.

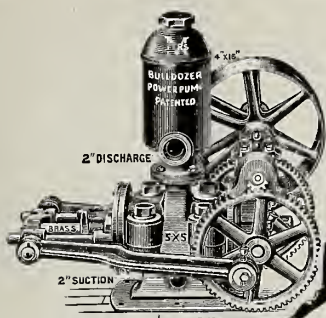
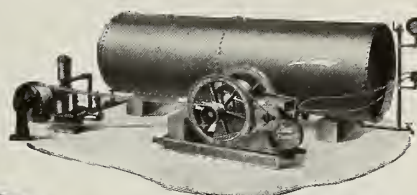
With sufficient cold storage plants at home, cold storage in transit rates and cold storage at point of destination, the fruitgrowers will be thoroughly equipped. Cold storage at diversion points and market centers will be just as necessary in future as in the past. The object of additional cold storage at home being principally to provide for the quantity for which the railroad cannot supply cars rapidly enough. Growers will continue to use cold storage at diversion points and at all times find it necessary to have sufficient quantities of apples stored near marketing centers with which to supply immediate wants of the market as required.

We desire to call attention to the statement of fruits shipped to Seattle in 1912 which appears elsewhere in this edition. Seattle is a city of 250,000, one-quarter million inhabitants. These statistics are prepared by the district horticultural inspector and are correct, therefore some very significant and educational conclusions can be drawn in reference to the fruit consumed. They are of value in showing what the consumption of apples would be if all markets were intelligently and properly supplied. Seattle consumed in 1912 883 cars of apples, averaging 630 boxes to the carload, being a total of 556,808 bushel boxes. Four times this quantity would indicate the consumption of a million people, which would be 2,227,233 bushel boxes. For 90,000,000 people in the United States, to say nothing of export trade, it would mean 200,450,800 bushel boxes. In the article which appears in the March edition, entitled "The Apple Market of

1912, Evils and Remedies," the editor stated he did not believe there was overproduction of apples, but that there was a lack of distribution. The crop for 1912 is approximately estimated, which is about correct, at 40,000,000 barrels, which would mean 120,000,000 bushels, as each barrel contains three bushels. In other words, if the United States consumed apples in the same way as Seattle consumed them we would be consuming over 200,000,000 bushels, whereas we only produced in 1912 120,000,000 bushels. Attention is called to the fact that the consumption of Seattle was simply normal, without any effort to increase consumption. If a good campaign had been put up to increase the consumption of apples in Seattle there is no question but what the quantity would have far exceeded the present consumption. Seattle consumed 429 cars of oranges, almost one-half as many cars of oranges as apples; 113 cars of lemons, 327 cars of bananas and 34 cars of grapefruit. In other words, the total number of cars of grapefruit, bananas, oranges and lemons was 903. In addition to being eaten fresh the apple can be served in 209 ways as dessert, whereas bananas, oranges and grapefruit are only eaten one way, and that is out of hand. Our apple-selling months, in which the volume of business is done, are September, October, November, December, January, February and March, a period of seven months, consequently Seattle consumed 125 cars of apples per month. Every other city ought to consume as much as Seattle and more. The total number of cars of all kinds of fruits consumed by Seattle is 3,374 per year, or almost ten cars a day. The peach season is comparatively short compared with the apple season, yet Seattle consumed half as many carloads of peaches as it did apples; the consumption of peaches being 336 cars. The consumption of apples per capita in the United States should be as great as in Seattle, and we might add that without doubt Seattle's consumption can be increased very heavily by proper methods of advertising, supplemented by active campaigns, educating the people what varieties to use, when to use them and supplying the markets at all times with absolutely quality cars. If the consumption of apples per capita in the United States had been as great as that of Seattle there would have been a shortage of 80,000,000 bushels. Mr. Fruitgrower, these are some very significant figures. It certainly must be evident that our distributing and marketing system is not getting the results it should.

Fair Hesperides. — North-Central Washington expects to hold a big apple show in November, 1913. Great interest is being taken in this by the fruitgrowers along the Columbia River in the territory tributary to Wenatchee. Business men will join hands with the fruitgrowers to make this apple show a great success. With the amount of interest that is being taken and the

Cold Storage and Transportation.—The excellent articles in this edition on cold storage leave very little to be said, as they cover the subject very thoroughly in a general way. However, it does not seem out of place to emphasize editorially the importance of cold storage for fruitgrowers, particularly in the Northwest. The railroad officials have stated that in the next two or three years the maximum that can be moved per month by all of the railroads operating in the Northwest will be 10,000 cars. Various estimates have been given about the probable number of carloads that will be shipped out of the Northwest in the next three or four years varying all the way from 30,000 as high as 100,000. In our opinion it will be some time before the shipments of apples from the Northwest will reach 100,000 carloads; however, there will be an increased quantity and it is up to the fruitgrowers to provide ways and means for taking care of this increased quantity so that it can be laid down at destination in proper condition. Apples should be harvested promptly at maturity, packed quickly and put on cold storage immediately. Even with a crop of 30,000 carloads it is evident that if only 10,000 cars per month are available it would be three months before the entire crop could be transported. In the meantime the quality would deteriorate and the keep be seriously foreshortened. The fruitgrowers must

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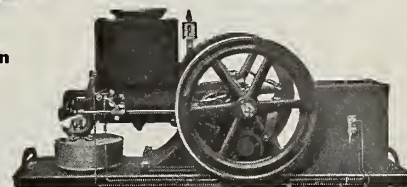
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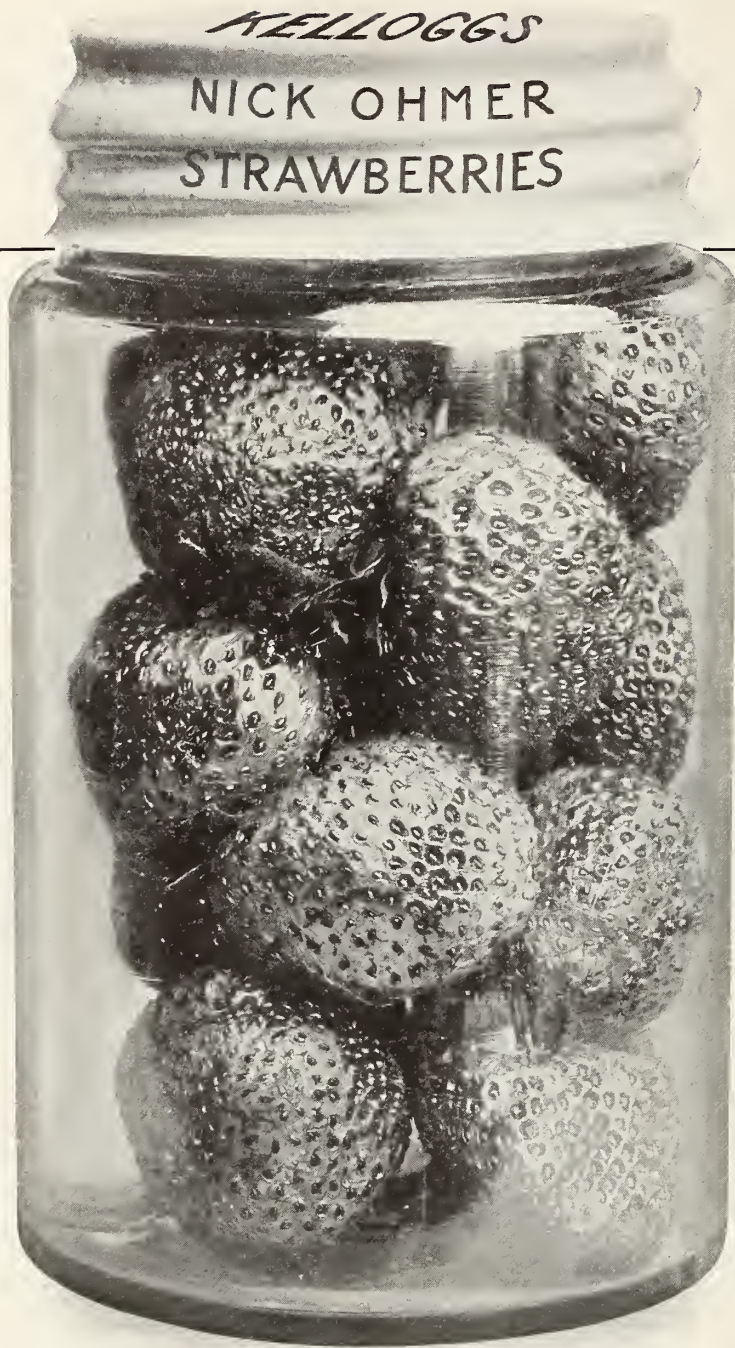
STOVERS
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enthusiasm already manifest there is no question but what this will be the greatest public event that has ever happened in the North-Central Washington fruit district. Such affairs are not only interesting to growers but very instructive in many ways too numerous to mention. They afford a splendid opportunity for growers to meet, become acquainted and to discuss the various problems pertaining to the fruit business, and this interchange of ideas is valuable beyond expression.

We bespeak for this show a grand success and unhesitatingly say that every fruitgrower should immediately become interested and support it financially. Every fruitgrower should make a display and the best display possible.

Suggestions for Making Apple Shows a Success.—The editor of “*Better Fruit*” has attended all of the big apple shows in the Northwest and a large part of the smaller shows. He has been a close observer and studied carefully every

feature of the shows with a view of ascertaining what features interested the attendants most, and has also endeavored to ascertain what is necessary to be done in advance to draw the crowd, and what should be done to keep up the attendance. Unhesitatingly it is the editor's belief, first, that feature exhibits interest the crowd far more than plain commercial exhibits. In the *Apple Show Annual* of “*Better Fruit*,” published in February, some splendid suggestions are given in



THIS GLASS JAR OF BERRIES TELLS ITS OWN STORY. The Kellogg strain of Nick Ohmer plants has been thoroughly tested throughout California, Oregon, Washington and British Columbia, and each test proves it to be enormously productive of big, late, highly-colored and richly-flavored berries, and a splendid shipper.

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Klondike for early, Magoon and Clark's Seedling for midseason, and Nick Ohmer for late. These varieties are particularly adapted to the Pacific Coast soils and climatic conditions. They grow big crops of fancy berries that bring fancy prices. All good shippers.

Three Pacific Coast growers have ordered 500,000 Kellogg plants for this spring's setting, and many other growers have ordered 20,000 and more. These growers have used Kellogg Pedigree plants for years. They have found them always true to name and heavy fruiters.

Grow Fancy Strawberries

If you want to grow big crops of fancy berries you must have, first, plants which have been selected from a strain of highly productive mother plants; second, perfectly developed plants which have been brought to full maturity by scientific feeding and grown under intensive cultural methods; third, plants that never have been weakened by pollen secretion or seed production.

The Kellogg Pedigree plants embody all of these essential features. Set one acre to Kellogg Pedigree plants this spring during April or May, and put \$500 to \$800 in the bank next spring.

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Whether you grow strawberries for home use or for market you should send and get our 64-page book of strawberry instructions. It shows pictures of sixty varieties, including the fall-bearing kinds, and gives full descriptions. **THE BOOK IS FREE.**

R. M. Kellogg Co., Box 355 Canby, Ore., Three Rivers, Mich.

illustrations of the feature exhibits at the National Apple Show at Spokane, the Portland Land Products Show and the California Apple Annual. Every fruitgrower should study these and endeavor to plan out some design for an original feature exhibit. Without question the attendance at many of the apple shows should have been much larger than it has been in the past. The large dailies in the cities where these shows were held gave the matter good publicity, but it must be remembered that fruitgrowers of all the different sections are not always readers of the big dailies, and it seems necessary, therefore, that advertising space should be arranged for in all of the local papers in each town in all of the different fruit districts. At the Spokane Apple Show the street parades and vaudeville performances each evening were strong features in keeping up the daily and nightly attendance. Good music perhaps draws and holds a crowd as much as anything else. Street parades are strong factors in keeping up the daily attendance. Much interest can be created in the show by good fruit displays, card announcements and placing banners in the various stores in the city where the show is to be held. Good posters announcing the show should be posted in the post-offices of every little town and city that is tributary to the show city.

The Scientific American of February first published a very interesting article on "Economics of the Farm Tractor," in which it states that the general opinion of well informed tractor men is that it will pay a man who has 200 acres or more under cultivation to purchase a tractor. His power bill for the year would be six per cent, \$72; depreciation, \$200 on a tractor valued at \$1,200; fuel, oil and labor, \$160; total, \$562. At an average of \$4.38 for all-horse labor the total would amount to \$876, showing a saving of \$344 per year. The author, Mr. Philip Rose, in the same article states that according to the report of the secretary of agriculture there were 24,698,351 horses on farms in the United States, their total value being \$2,698,351,000. Adding the value of harness and other gear to make this power available, he estimates that it is evident that farmers have invested about three billion dollars in power equipment. The cost of maintenance per acre is about \$3.76, while from figures given the cost of cultivating by tractors would be \$2.66. Every farmer with sufficient acreage would do well to send for a copy of this number of the Scientific American.

E. E. Samson, manager of the Yakima County Horticultural Union, gave a very able address before the annual stockholders' meeting, reviewing the fruit situation for the year 1912, with a most excellent and businesslike report on the prices. In addition he had some very valuable suggestions for the fruit business. In brief, Mr. Samson believes and urges co-operative selling. Too

many concerns and too many independents, in his opinion, create unnecessary selling competition at home which results in low prices. Like Mr. Gilbert, he is strongly imbued with the importance of training our young men who have the ability in the line of salesmanship, believing that owing to the fact that they are interested in the community, and for the further reason they are familiar with our varieties, their quality, color and keep, they will become most effective salesmen. His comment upon the indiscriminate shipping of all varieties and grades is correct. He has found that the East does not want six grades. He finds that the ordinary varieties will not justify the freight shipment, but good grades of good varieties have brought even fair prices this year. He strongly favors co-operation, two grades, selling f.o.b. and educating our young men to become salesmen.

The Spy is a monthly publication issued by the International Apple Shippers' Association for the benefit of its members. In this edition of "Better Fruit" we print a number of articles taken from The Spy, which are copied from the following big papers of New York City: The New York Evening Sun, New York American, New York Morning Star, New York Evening Post and the Presbyterian Banner of Pittsburgh, Pennsylvania. The articles from the New York dailies indicate forcefully that the suggestion made in the leading article by the editor in this edition on "Apple Market of 1912, Evils and Remedies" is a practical one. The suggestion referred to is that we can reduce the exorbitant retail price of apples through public sentiment and through the daily press.

Every subscriber of "Better Fruit" should read and study carefully and thoroughly every article in this edition. It is the best edition of "Better Fruit" and contains more valuable information than any edition that we have ever published. Every article is on a subject that is of vital importance to the fruitgrower today. The articles are on "Marketing," "Greater Distribution," "Greater Consumption," "Advertising the Apple," "Reducing Retail Price of the Apple," "Housewives Leagues' Work for Reducing the Exorbitant Retail Price," "The Value of the Apple as a Diet and as a Wholesome Fruit."

OREGON-WASHINGTON RAILROAD & NAVIGATION CO.
Portland, Oregon, February 7, 1913.

Editor Better Fruit:

You may continue the "What Can Be Done With From \$1,000 to \$5,000 in Oregon" ad.

In this connection we desire to say we are very pleased with the replies we are receiving, and your publication is entitled to credit.

Your truly,

Wm. McMurray.

Editor Better Fruit:

Enclosed please find three-dollar check in payment for a three-year subscription. I assure you I fully appreciate your most valued periodical and consider it the peer of all such trade journals. Located as we are, only seven miles from the Utah Agricultural College, and with your valuable journal I feel the peer of my fellows even though I am a thorough greenhorn, only having been out of the mercantile business in Salt Lake three years. Yours truly, George Romney, Smithfield, Utah.

"Blue Ribbon" "Red Ribbon"

Famous Brands of Yakima Apples

A few cars of leading varieties still left in storage in the Middle West. Grade, pack and present condition guaranteed. Prices reasonable. Get our quotations and assortments.

YAKIMA COUNTY HORTICULTURAL UNION

E. E. SAMSON, Manager

NORTH YAKIMA, WASHINGTON

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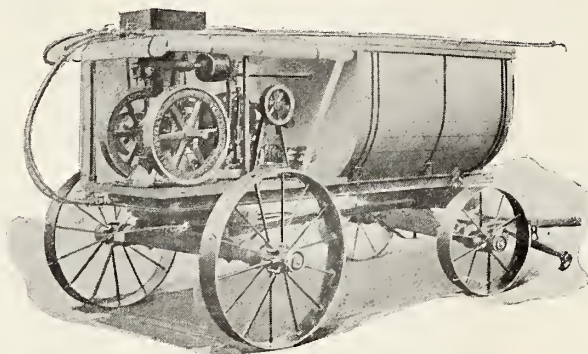
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Yakima Valley Fruit Growers' Association

IN his address before the association Manager Robbins, who has been re-elected for this year, gave the members the benefit of all his observations and conclusions on this year's business. General satisfaction has prevailed in the association and the organization is stronger and larger than ever before, and is meeting with splendid success. Among a few of the many important things spoken of by Mr. Robbins in his address may be mentioned the following: The Yakima Valley Fruitgrowers' Association has the highest kind of standing among the trade. The "Y" brand has met with prompt and popular approval. Members of the association should be compelled to market all their fruit through the association. Connection with brokerage concerns was necessary during the past year for the reason the expense of maintaining individual representatives would be too great. The association received better prices for peaches than any other organization with equal tonnage.

Mr. Perham, the sales manager, rendered a very complete report, which is given below. It is extremely interesting and should be read by every fruit-grower in every district. The report is not only businesslike but thorough, and brings out prominently many features of importance for the consideration of the fruitgrowers. We call special attention to the prices given on

apples for different grades and different sizes, and hope our readers will note particularly the fact that the report shows clearly that there is not much money in packing, boxing and selling small apples, especially 5-tier of C grade, or 4½ and 5-tier of orchard run. The extra fancy and fancy grades amounted to 98%, leaving only 10% of C grade, orchard run and hail pecked. In our opinion C grade, orchard run and hail pecked from every district should go to the vinegar factory or cider mill. Mr. Perham stated that he tried hard to hold the market on peaches at 35 cents, but competitors had offered consignments at 25 cents, which, it is said, could be backed by proof. Relative to prunes he stated that the quality was not up to the market in 1912. He expressed satisfaction over the prices received for Anjou and Winter Nelis pears. Bartlett's, however, proved disappointing. He reported 1,840 cars handled, 584 sold f.o.b. prices, 559 at private sale, 288 at auction, 101 consigned, 89 consigned at guaranteed advance, 219 placed in cold storage. The report said:

"We have shipped to January 20, 1913, 1,840 cars, of which 1,613 have been sold in 148 markets in 27 states, Canada and foreign countries. Of the balance, 219 are in storage and 8 in transit, 6 to points in the United States, 1 to Norway and 1 to England. Of the

1,613 cars sold, 198 were sold f.o.b. loading station, and we did not learn the destination. Destination of the remainder are: California, 82; Connecticut, 1; Idaho, 5; Illinois, 112; Indiana, 9; Iowa, 28; Kansas, 9; Maryland, 31; Massachusetts, 18; Michigan, 2; Minnesota, 100; Missouri, 58; Montana, 87; Nebraska, 58; New York, 46; North Dakota, 165; Ohio, 34; Oklahoma, 4; Oregon, 30; Pennsylvania, 63; Rhode Island, 2; South Dakota, 19; Texas, 12; Washington, 241; West Virginia, 5; Wisconsin, 20; Wyoming, 5; Canada, 134; England, 6; Scotland, 1; Germany, 2; Australia, 7; Philippine Islands, 11; South America, 8. It is estimated that there are 180 carloads of apples in the hands of district associations or association growers in the Yakima Valley.



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"Shipments upon which payment had been received up to January 1: Grapes, 46,053 baskets, 2,178 crates, 19 boxes; plums, 4,546 crates, 150 boxes; apricots, 5,225 crates, 62 boxes; crabapples, 3,278 standard boxes, 932 half-boxes; pears, 67,503 boxes, 429 peach boxes; prunes, 73,527 crates, 19,159 boxes; blackberries, 6 boxes; dewberries, 12 boxes; cantaloupes, 445 crates; nectarines, 444 crates, 49 peach boxes; Yakimines, 872 crates; strawberries, 2,713 crates; cherries, 18,941 boxes; peaches, 555,635 boxes; cucumbers, 5 boxes; corn, 40 boxes; egg plant, 50 crates; quince, 124 boxes; tomatoes, 846 boxes; gooseberries, 114 boxes; raspberries, 43 crates; apples, 267,495 standard boxes, 1,581 half-boxes; watermelons, 480,763 pounds; asparagus, 12,051 pounds; canning pears, 173,692 pounds; canning peaches, 31,096 pounds; apples, 74,940 pounds.

"Prices received on commodities disbursed up to January 1, 1913: Grapes—Baskets, \$0.139; crates, \$0.316; peach boxes, \$0.31. Peach plums—Crates, \$0.49. Various plums—Crates, \$0.372; peach boxes, \$0.315. Apricots—Crates, \$0.467; boxes, \$0.36. Crabapples—Boxes, \$0.58; half-boxes, \$0.438. Pears (various)—Boxes, \$0.75; Bartlett (standard boxes), \$0.85; half-boxes, \$0.178; Winter Nelis (standard boxes), \$0.975; d'Anjou (fancy), \$2.36; d'Anjou (extra fancy), \$2.63; d'Easter, \$1.09. Prunes—Tragedy, crates, \$0.705; Italian, crates, \$0.45; various, crates, \$0.416; various, boxes, \$0.314; Italian, boxes, \$0.386; Silver, boxes, \$0.462; Hungarian, boxes, \$0.465. Blackberries, \$1.28. Dewberries, \$1.29. Cantaloupes, \$0.905. Watermelons, \$6.31 per ton. Nectarines—crates, \$0.288; peach boxes, \$0.38. Yakimines—Crates, \$0.978. Strawberries—Crates, \$2.43. Cherries—10 pounds, \$0.39; 20 pounds, \$0.54; strawberry crates, \$0.60; peach boxes, \$0.35. Peaches—Elbertas, \$0.236; Crawford, \$0.30; various, \$0.306. Asparagus—Pound, \$0.061. Cucumbers—Pound, \$0.11. Corn—Crates, \$0.362. Egg plant—Crates, \$0.921. Quince—Boxes, \$1.13. Tomatoes—Boxes, \$0.284. Gooseberries—Boxes, \$1.04. Raspberries—Boxes, \$1.215. Canning pears—Ton, \$17.02. Canning peaches—Ton, \$13.

"Average price realized by association on apples, irrespective of grades and sizes, not including 'C grade' pool of 219 cars, not disturbed: Winesaps, \$1.01; Spitzenberg, \$1.03; Jonathan, \$0.78; Arkansas Black, \$1.40; Stayman, \$0.99; Rome Beauty, \$1.02; Winter Banana, \$1.01; Delicious, \$1.38; White Winter Pearmain, \$0.91; Hubbardson, \$0.96; Red Cheek Pippin, \$0.80; Delaware Red, \$0.73; Grimes Golden, \$0.71; Ben Davis, \$0.60; Baldwin, \$0.66; Missouri Pippin, \$0.73; Northern Spy, \$0.81; Gravenstein, \$0.74; M. B. Twig, \$0.70; Black Ben, \$0.80; Gano, \$0.81; Belleflower, \$0.72; York Imperial, \$0.84; Senator, \$0.36; King Tompkins, \$0.68; Lauer, \$0.62; various, \$0.68; Wagener, \$0.69; King David, \$0.96; Aristo Black, \$0.88; Snow, \$0.64; King, \$0.68; Yellow Newtown, \$0.82. Average prices realized by association by grades and tiers,

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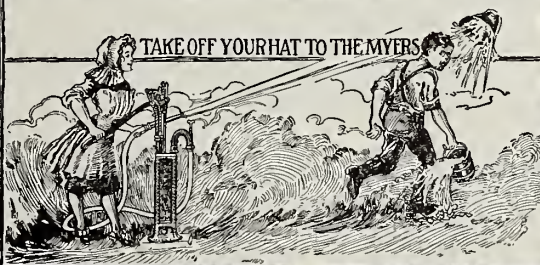
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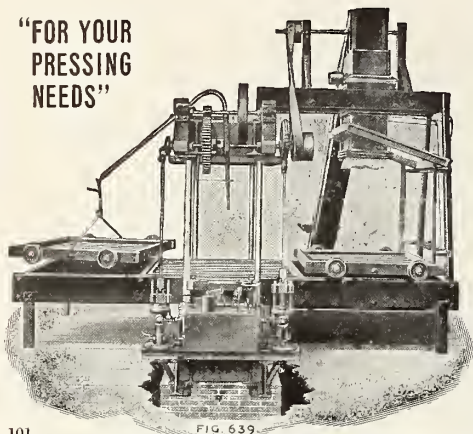
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and all other standard kinds and varieties of fruits, berries, ornamentals, etc., are now coming on in our nursery at such a rate as to insure good, strong, healthy stock. We have more and larger orders on our books to date than we have ever had before. Why? Because people demand the best. Try once the "Quaker Trees" and you will have no other. Our painstaking methods, careful spraying, constant cultivation cannot help but produce clean, healthy stock. All stock is under the direct supervision of the proprietor, who has had thirty-five years of experience in the nursery business. If you want healthy, well matured trees, free from disease, etc., drop us a line or call and see us.
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irrespective of variety, not including 'C grade' pool of extra fancy—3½- and 4, \$1.10; 4½, \$0.92; 5, \$0.66. Fancy—3½ and 4, \$0.89; 4½, \$0.61; 5, \$0.59. C grade—3½ and 4, \$0.72; 4½, \$0.67; 5, \$0.49. Orchard run—3½ and 4, \$0.75; 4½, \$0.44; 5, \$0.40. Hail pecked—3½ and 4, \$0.69; 4½, \$0.53; 5, \$0.40. Per cent of tiers, all apples—3½ and 4, 50 per cent; 4½, 33.8 per cent; 5, 16.2 per cent. Per cent of grades, all apples—Extra fancy, 48.3 per cent; fancy, 40.8 per cent; C grade, 8.2 per cent; orchard run, 0.8 per cent; hail pecked, 1.9 per cent."

Notice to Farmers and Gardeners

The Department of Botany of the State College of Washington is prepared to do seed testing for the people of the State of Washington. Seeds will be tested both for adulteration and viability. In order that the work may be as accurate as possible care should be exercised in selecting samples to make the samples representative of the whole lot of seed under question. The sample should be made up of seed taken from several places in the general bulk of the seed. Samples of small seed such as blue grass, timothy, lettuce, radish, etc., should contain not less than one ounce. Samples of larger seeds such as wheat, peas, beans, etc., should contain not less than four ounces. Samples should be accompanied by the following information:

Name of sender.....
Address of sender.....
Date.....
Name under which seed was sold.....
Name of seller.....
Address of seller.....
Price paid.....
When grown.....
Where grown.....

There are no charges for making the tests. Samples should be securely packed and sent by parcels post to Ira D. Cardiff, State College of Washington, Pullman, Washington.

Strahorn Recommends Storage Close to Consumer

Mr. Robert E. Strahorn, at the Spokane Apple Show, declared every association should have sufficient storage room close to consuming point to take advantage of the markets and supply orders promptly. In addition he urged the establishment of storage plants in the Northwest so that money paid for storage could be kept in the West rather than go to the East, as is the custom at present.

Colorado Association

So far the fruitgrowers' associations of Colorado have not been successful in perfecting a plan of getting together under one united selling agency. It apparently does not seem a lack of desire, but rather a lack of some plan that is practical to all interests represented.

Editor Better Fruit:

It has become a conviction with me that no one interested in fruit culture cannot afford to be absent from your subscription list, consequently accept my personal check for one dollar and forward me magazine. Yours very truly, C. L. McNary, attorney, Salem, Oregon.

Cooling Fruit Before Packing

There is a point in the storage of apples, and doubtless other fruit as well, which is not generally understood. Fruit coming from the orchards as it does at a temperature of 50 to 70 degrees Fahrenheit, or even 80 degrees Fahrenheit, or more in some cases, should not be barreled or packed in other tight packages at this temperature and placed immediately in cold storage if it can be avoided. It is very much better to have the fruit cooled to a temperature well below 50 degrees Fahrenheit, and the nearer 32 degrees Fahrenheit the better for packing. If apples come in from the orchards in open crates they may be put into a pre-cooling or temporary storage room and allowed to cool before packing them in barrels or permanent storage packages. If fruit is packed in a heated condition in a tight package and placed in a cold room there will be a condensation on the interior of the package, which is damaging to the fruit, as it tends to promote a growth of mold and other germs of decay.—“Cold.”

Hotels Advocate the Use of Apples

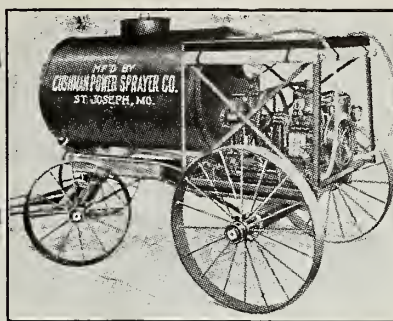
The “Tourist, Hotel and Travel News” published a very interesting article about the value of the apple as a food and the wholesomeness of the apple as a diet. “Few people realize the nutritive value of apples and wonder at the exorbitant prices paid for rare varieties. The fact is that there are few fruits that are of the same value as the every-day, common apple, and the reason that so few appreciate it is because they do not know how to eat it. Physicians prescribe apples for puny children on account of their blood-enriching properties, which are very easily assimilated and cleanse the system and feed the brain because of the phosphorus which they contain. The albumen, the malic acid and the sugar which the fruit holds make it one of the best fruits which can be eaten, and it is a slight tonic in its effects. The trouble is that people do not masticate the fruit properly and so reduce it to the juicy pulp which is easily digested. Our grandmothers used to scrape the apple to reduce it to this condition, and if we do not masticate properly this is a good substitute. Remember that the apple is the king of fruits and so regard it. Hotels should always include apples in the menus.”

Montana Fruit Distributors

In January the fruitgrowers and representatives from the different associations in the Bitter Root Valley attended a meeting at Hamilton, endorsing the plan of the North Pacific Fruit Distributors. A definite decision was made to become a part of the North Pacific Fruit Distributors and articles of incorporation and by-laws were adopted. Mr. Ward Saskett presided over the meeting, explaining fully the plan of the North Pacific Fruit Distributors.

The
CUSHMAN

LIGHT WEIGHT
DURABLE
ACCESSIBLE
EFFICIENT



The
CUSHMAN

BUILT IN SIZES
FROM
3½ TO 15 GALLONS
PER MINUTE
\$155 AND UP

CAST IRON *Versus* BRASS, BRONZE and STEEL

Do You Realize that the ordinary type of power sprayer has in its pump and engine construction 400 to 700 pounds of useless cast iron? That another 400 pounds in the water-soaked wood tank does you no good? Don't you know that this is eliminated in The Cushman—the world's best power sprayer, as in its construction more steel, bronze and brass, and less cast iron is used than in any other sprayer?

The Winner-Wonder—the world's best gasoline engine, is perfectly counterbalanced, and throttle controlled, runs as steadily as a clock, weighs less than 200 pounds, and develops more than 4 H. P. It is absolutely the most powerful power, as well as the most durable gas engine ever pulled into an orchard.

Did it ever occur to you that the old-fashioned wood tank which is still used on many sprayers is as far out of date for this purpose as is the single shovel for the cultivation of corn—that this water-soaked wood tank weighs over 400 pounds more than the

modern steel tank,—that the steel tank is never leaky,—that after you are gone, the next generation will continue to use this same tank? Our galvanized steel tanks are reinforced with steel angle, thoroughly riveted and soldered,—the inside coated with Our Chemical Resisting Compound which we guarantee to withstand the chemical action of bordeaux and all other spray solutions.

Stop and think! Your team is pulling big enough loads into the orchard, all right, but you are not putting it onto the trees.

Better get THE CUSHMAN, equipped with 250-gallon steel tank, and have less load on the team, or use 300-gallon steel tank, which will, when filled, make no more load on team than you have been pulling with the old type outfit loaded with 200 gallons.

This saves you just 50 per cent of your time when driving to and from your water supply. Figure it out for yourself what your time is worth.

Send for Large Illustrated Catalog and Special Bargain Proposition NOW

Cushman Mfg. Company

or
Grand Junction
Colorado

301 Michel Street
St. Joseph, Mo.

or
114 Pacific Avenue
Spokane, Wash.

Hemingway's Lead Arsenate

The brand which is used in all the great apple growing districts of the country—Western New York, Michigan, the Blue Ridge Slopes, the Ozarks and the famous valleys of the great Northwest

Hemingway's Lead Arsenate

is of the highest standard of manufacture. We claim the following points of superiority:

Perfect Physical Condition

i.e., fineness of grain and ease in thinning down in water

Correct Analysis

i.e., full percentage of Arsenic Oxide (not less than 15%) and no more than a trace of Soluble Arsenic

WRITE FOR BOOKLET AND PRICES

Stocks Carried by **KERR, GIFFORD & CO.**
PORTLAND, OREGON

Hemingway's London Purple Co., Ltd.
64 WATER STREET, NEW YORK, N. Y.



Bean Power Sprayers

Their best recommendation is the oft repeated expression, "As Good As A Bean"

You'll find in Bean Power Sprayers every feature that makes for strength, durability, convenience and general efficiency. As we have added feature after feature— attempts have been made to copy them. This is evident to every grower who has watched developments in the sprayer field. But the best Bean features are so patented that they can't be used in other makes. Don't buy an outfit till you see the Bean.

Write for Catalog.

Deliveries made from Portland and Spokane.

BEAN SPRAY PUMP CO., EASTERN FACTORY
BEREA, OHIO
213 West Julian Street, SAN JOSE, CALIFORNIA

Favors Central Selling Agency

At the annual meeting of the Yakima Horticultural Society two resolutions were passed, one indicating a closer alliance with the fruitgrowers' association of the Yakima Valley and the other favoring a selling agency, which will represent both of the organizations, each retaining its identity. While the resolutions are slightly different they

Hood River Grown Nursery Stock for Season 1911-1912

Standard Varieties

Prices Right and Stock First Class

C. D. THOMPSON, Hood River, Oregon

ORCHARD YARN

The use of Orchard Yarn as a factor in supporting, shaping and retaining the form of trees is past the experimental stage, and the best and most progressive orchardists attest its value. It is simply in keeping with up-to-date methods. The rapid increase in the use of Yarn proves that growers are awake to improved methods and ready to adopt means that effect saving in time and money in caring for fruit besides preserving their trees. Do it now, after trimming and before leafing time, as it can then be better determined how tying should be done. Two-ply Tarred Orchard Yarn has been decided the best by growers whose experience is ample proof of what is most suitable.

The Portland Cordage Co.

Original and Only Manufacturers of
Orchard Yarn

both have practically the same object in view, the elimination of self-competition and marketing under one selling head in that valley. The resolutions are as follows:

"Whereas we believe that the present unsatisfactory market conditions for apples and other fruit in the Yakima Valley, as well as in other sections, is and has been largely due to faulty methods of handling and distribution, and that the remedy for these conditions is largely in our own hands, therefore be it resolved, that the Yakima County Horticultural Union declare itself in favor of forming a close alliance with the fruitgrowers' association of the Yakima Valley for the purpose of eliminating ruinous competition and of devising better marketing conditions.

"That we declare ourselves in favor of establishing a uniform grade and pack for the growers of the Yakima Valley and of uniform labeling representing such grades and pack. Be it also resolved, that we as stockholders hereby instruct the trustees of this union to take all reasonable steps and make all reasonable concessions necessary to bring about united action on the part of the fruitgrowers of the Yakima Valley in the matter of creating a central selling agency that shall represent both the association and the union, and if possible that shall be representative also of the other leading fruit-growing sections of the Northwest."

The Rogue River Co-Operative Fruit-growers' Association

In January a number of fruitgrowers met for the purpose of forming another association in Medford, selecting Mr. J. A. Perry chairman and Mr. S. A. Nye secretary. A committee was appointed to perfect all details and plans necessary for forming a permanent organization under the above name. Evidently the fruitgrowers in Southern Oregon seem to think there is room for two associations, as many fruitgrowers so express themselves.

The Milton Fruitgrowers

Many of the newspapers have announced that the Milton Fruitgrowers' Exchange will net about sixty cents a box as the average for this year.

Cold Storage Receipts Good Collateral

Mr. Charles Bingham of Pullman, Washington, says that the banks are willing to help the fruitgrowers where the collateral is good. This means cold storage.

WANTED

A position in the fruit industry, by a well-trained Eastern young man 24 years of age. Has a Master's degree in Pomology from N. Y. State College of Agriculture at Cornell. At present engaged in teaching fruit growing in an Eastern university. Address W. H. D., care of "Better Fruit."

Manager or Superintendent

Man of wide practical experience in all kinds of orchard and nursery work, Graduate in Horticulture, now open for offer on salary or profit sharing basis. Can give splendid references. Address "G," care "Better Fruit."

The Caldwell Commercial Club

Offers a very liberal cash donation and building site for the erection and operation of an Apple By-products Plant, to man with experience in this line. The plant must be located at Caldwell, Idaho.

FOR SALE

150 acres of fruit land in Southern Oregon; 35 acres in choice fruit and nuts, 40 acres in timber. Six miles from Medford and six from Ashland; two from Talent and two from Phoenix. These towns are all on the Southern Pacific Railway. For information address owner. C. C. NELSON, Box 284, Colorado Springs, Colorado.

DAHLIAS

If you want a big display of bloom for small outlay of time, space or money

Plant Dahlias

I have 400 choice named varieties, one-half of them are 10c each, \$1.00 a dozen.

If choice is left to me I will send
20 for \$1.00, all postpaid

Also 200 rare imported ones at reasonable prices. Send for catalog.

MRS. H. A. TATE,
Old Fort, North Carolina

Big Profits Canning Fruits and Vegetables

Canning fruits and vegetables is the solution to low prices and the tremendous waste in fruit and vegetables at the ripening season. You may guard against this costly waste if you own a "NATIONAL" Steam Pressure Canning Outfit. Only a very small investment is required, which is many times paid back on the first season's pack.

National STEAM PRESSURE Canning Outfits

Home Sizes \$10 and up—Hotel Size \$25 to \$175—Factory Size \$110 to \$1,500

Factory Outfits, \$110 to \$1,500

Steam pressure canning is very simple and requires absolutely no experience. All you need is the right outfit. You could not find a better way to protect yourself against low markets, or find another business with such opportunities for making money as "Steam Pressure Canning" presents.

Farmers and fruit growers who have adopted the "Steam Pressure Method" are realizing nice profits. You can make money by canning what you raise and selling it later at store prices, when the articles are scarce. This is no experi-

ment. Government Experimental Stations and Agricultural Colleges recommend it.

"NATIONAL" Steam Pressure Canning Outfits will preserve anything you grow, both in glass jars and cans.

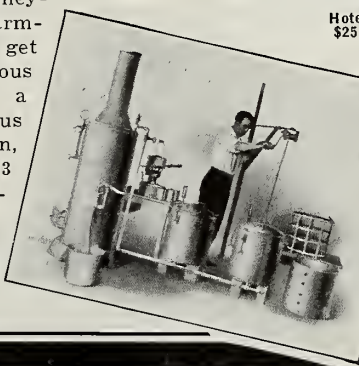
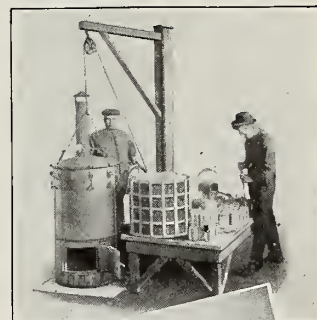
Write for Particulars

Let us tell you the money-making opportunities for farmers, fruit growers, etc., to get greater profits; for ambitious men and women to start a profitable business. Tell us what you are interested in, and we will send you 1913 literature showing our complete line.

Agents Wanted

Canvassers and Agents are making big money selling "NATIONAL" Outfits. Territory is going fast. Write for our "Quick Sales Plan."

Hotel Outfits
\$25 to \$175



Home Outfits
\$10 and up

Northwestern Steel and Iron Works

829 Spring Street, EAU CLAIRE, WISCONSIN

Toppenish Distributor Abroad

Mr. H. N. Gilbert, of the firm of Richey & Gilbert, Toppenish, started on a tour around the world in February, to be gone several months. Mr. Gilbert has taken some elegant boxes of Yakima fruit along with him to show the fruit dealers in the different cities he visits. Mr. Gilbert, when abroad, expects to go to London, Bath, Liverpool, Dublin, Glasgow, Berlin, Hamburg, Vienna, Paris, Moscow, St. Petersburg and numerous other large cities. Mr. Gilbert recommends a business training in the salesmanship of apples

among young men in the fruit-growing districts, believing that young men who have the ability to make salesmen, who live in their own districts, will possess additional efficiency, inasmuch as they are vitally interested in the success of their own country, and for the reason that being familiar with all the different varieties and grades, the length of keep, comparative quality, etc., will enable them to more intelligently conduct a scientific campaign of selling. It is a thought well worthy of consideration on the part of all fruit districts. Mr. Gilbert also expresses his opinion very forcefully in opposition to loading cars without being sold. In other words, to start cars rolling without being loaded for any particular market or any particular need, in his opinion, is a mistake, because a car that is loaded at random will not meet with the requirements of any particular purpose, and naturally will not command as high a price on the market. His idea, which is practical, is that cars should be loaded for a particular individual and particular markets, giving proper consideration to their requirements. In this way, and this way only, can the best prices be obtained.

W. van Diem

Lange Franken Straat 45, 47, 49, 51, 61
ROTTERDAM, HOLLAND

European Receivers of American Fruits

Eldest and First-Class
House in this Branch

Cable Address: W. Vandiem
A B C Code used; 5th Edition

Our Specialties are

Apples, Pears, Navel Oranges

For Sale

For particulars address

E. B. MARTER, Burlington, New Jersey

52 shares of stock New Jersey Fruit and Produce Co., located in the very best Eastern fruit section of the United States, located near Glassboro, New Jersey, 18 miles from Philadelphia, 100 miles from New York.

The Paris Fair

Hood River's largest and best store
RETAILERS OF

EVERYTHING TO WEAR

AGENTS FOR

HAMILTON & BROWN AND
THE BROWN SHOES
HART, SCHAFFNER & MARX
CLOTHES

MANHATTAN SHIRTS
JOHN B. STETSON HATS
NEMO CORSETS

Strictly Cash—One Price to All

PERSONAL

Wanted, people to know that the WHITE STAR chemical closet is made for homes not having sewers or water system toilets.

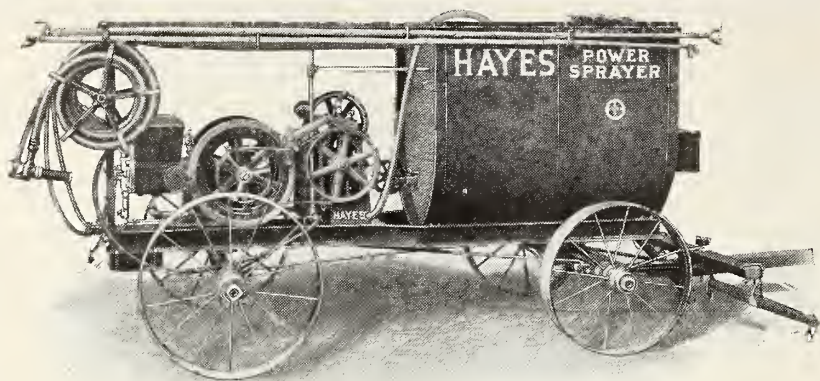
The WHITE STAR is a CHEMICAL closet and can be placed in any part of the home, and is at all times SANITARY and ODORLESS.

Write for Catalog.

Sanitary Closet Co.

302 Pine Street

Portland, Oregon



Hayes Triplex Power Sprayer

Will make your spraying a pleasure. Guaranteed to maintain 300 pounds pressure in your orchard. Ask the man to demonstrate to you the difference between Low Pressure and High Pressure and be your own judge as to the machine you should buy. Don't fail to see a demonstration at

Payette Valley Rex Spray Company, Payette, Idaho
 Apple Growers' Union, Hood River, Oregon
 Rogue River Fruit and Produce Association, Medford, Oregon
 Yakima Valley Fruit Growers' Association, North Yakima, Washington
 Wenatchee Rex Spray Company, Wenatchee, Washington

Shipment can also be made from Terminal Ice & Cold Storage Company, Third and Hoyt Streets, Portland, Oregon.

Send postal card for catalogue today to

Hayes Pump and Planter Company, Galva, Illinois

Peach and Small Fruit Growers

In February about 200 growers of peaches and small fruits met in Wenatchee and accepted the proposal of the Wenatchee Valley Fruitgrowers' Association, which was as follows: "This association will offer to the shippers now marketing their fruit through this association, all other stockholders and all parties willing to become stockholders the benefits of their present marketing machine for the sale of the coming season's production of soft fruit, but will insist that each shipper comply with our picking, packing, hauling and all other instructions pertaining to the delivery of fruit to our warehouse in salable condition. We expect to employ a salaried agent with headquarters in Seattle to handle that market if the business so justifies. It will be absolutely necessary for all parties shipping through this association to be stockholders and the amount of stock required will be determined upon the amount of bearing acreage each grower has. Stock can be paid for either in cash or by notes running one and two years."

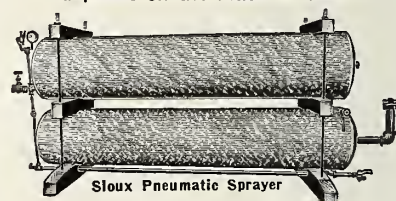
Why Not Spend Some of Our Money at Home?

A. H. Henry of North Yakima, Washington, during the Spokane conference stated that the last few years we have spent enough to build cold storage plants to care for the apple crop of the entire Northwest. He figures out, on a ten-cent basis, that this year we have paid cold storage on 12,000 carloads; 7,200 boxes at ten cents per box would be \$720,000 spent in cold storage.

Orchard inspection in Yakima Valley is reported to have cost the fruit-growers of that valley only six and one-fifth cents per acre.

The Cost of Spraying

depends on the machine used.



Sioux Pneumatic Sprayer

use the

Sioux Pneumatic Sprayer

AND REDUCE THE COST.

No engine, pump, or other machinery on the wagon—nothing but two galvanized steel tanks, as shown in cut. Nothing to wear, break, balk or bother. Will last a lifetime. Air in upper tank will spray all solution from lower tank without recharging. Perfect agitation. No lost time. Will do your spraying in less time, at less cost, and will work where other power sprayers cannot be taken. No ground too rough or hilly for it. Can be used any place a team can go. Write today for Circular.

SIoux CITY AIR COMPRESSOR COMPANY

712 Bluff Street

Sioux City, Iowa

Fruit Labels

OF

**QUALITY AND
DISTINCTION**

They're the only kind we make. If you are looking for the unusual and attractive in handsomely Lithographed Labels let us submit some samples and suggestions.

**NO ORDER TOO SMALL
NO ORDER TOO LARGE**

Schmidt Lithograph Co.

— SAN FRANCISCO — LOS ANGELES —
 PORTLAND, SALT LAKE CITY, SEATTLE

\$4

IS A SMALL PRICE
TO PAY FOR SAFETY

A Crown Relief Valve

on your power sprayer will insure safety and good pressure regulation. Adopted by most sprayer manufacturers. Insist on having it. \$4.00 by mail.

CROWN SPECIALTY CO.

The Seatless Valve

P. O. Box 297, CHICAGO

The Orchard and Vineyard Must Be Fed as Well as Sprayed

Money in fruit-
raising comes
from the
production of
steady crops of
first grades

Do not expect either orchard or vineyard to produce its best if you depend entirely on the natural sources of plant food in the soil. Especially must you keep up the supply of

POTASH

for on it depend in greatest measure the quantity, size, color, flavor and shipping quality that give fruit its market value. In fruit-raising, as in all farming, it is easily demonstrated that **Potash Pays.**

Peaches and small fruits that have received the right amounts of potash and phosphoric acid ship better, taste better and are better. At the time of the first cultivation, broadcast 300 pounds acid phosphate and 100 pounds muriate of potash per acre in the apple and pear orchard (150 pounds muriate in the peach orchard).

On citrus fruits or pineapples use sulfate of potash or 200 pounds double manure salt.

Some of the finest flavored strawberries and peaches are poor shippers, especially when barnyard manure is used as a fertilizer. Correct mineral fertilization will often make them firm enough to ship.

The nitrogen needs of the fruit can be learned by observing the amount of wood or vine growth. Manure alone is not the best or cheapest fruit fertilizer.

We sell potash in any quantity from one 200-pound bag up.

Write for Prices and Free Pamphlets on Fertilizing Fruit

GERMAN KALI WORKS, Inc., 42 Broadway, New York

Chicago, Monadnock Block
New Orleans, Whitney Central Bank Bldg.
Atlanta, Empire Building
Savannah, Bank & Trust Building
San Francisco



The Yakima Valley Fruitgrowers' Association re-elected Mr. J. H. Robins as manager for the coming season at a salary of \$5,000 per year. The manager reported that 1,840 cars were shipped by the organization in 1912

and that settlements had been made for 1,470 cars. A report will be issued in booklet form when the pools are all closed, which will be distributed to members. In addition to shipping fruit for the growers the association

handled spray, paper, boxes and other supplies to the value of over \$200,000 during 1912. The membership is over 700, covering 22 districts, and the orchard ownings of the members are approximately \$30,000,000.



Nine Kimball Cultivators in operation on property of Dufur Orchard Company, Dufur, Oregon, owned by the Churchill-Matthews Company, 510 Spalding Building, Portland, Oregon. This company is using at this time thirty-five Kimball Cultivators on their Dufur, Sheridan, Drain and Cottage Grove properties. This speaks volumes for home-produced machinery.

The Kimball Cultivator

GREAT WEEDS AND FERN EXTERMINATOR

How to Use the Kimball Cultivator to Keep Your Orchard in Perfect Condition

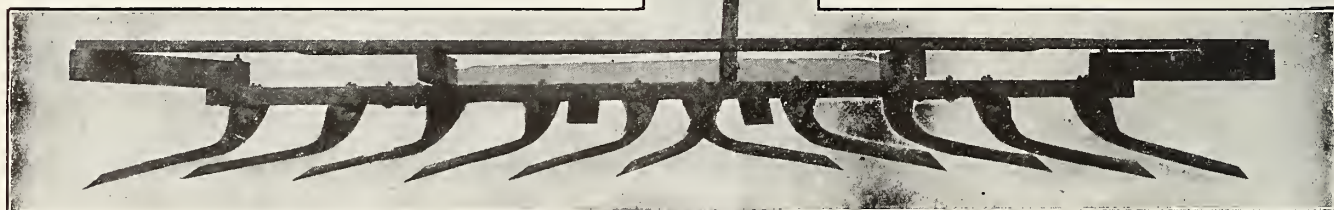
The first thing in the spring, as soon as the ground is dry enough, it should be well plowed or disced both ways, or diagonal if the trees are planted in that manner.

The rest of the season nothing is needed but the KIMBALL, which should be run over the ground

at least twice each month during the summer, or as soon as the ground is dry enough after a hard rain, or after irrigation.

This will break up the crust and stop evaporation, for when the soil bakes and opens in cracks is the time of the greatest evaporation.

More cultivation and less irrigation will produce better fruit, and it will keep longer than where too much water is used.



RETAIL PRICE SCHEDULE

No. 4—4½ feet, 6 blades, weight complete, 70 lbs.....\$13.50
 No. 5—5½ feet, 7 blades, weight complete, 85 lbs..... 15.00
 No. 6—6 feet, 8 blades, weight complete, 100 lbs..... 17.50
 No. 7—7 feet, 9 blades, weight complete, 100 lbs..... 18.50
 No. 8—8½ feet, 11 blades, weight complete, 115 lbs.... 20.00
 No. 9—10 feet, 13 blades, weight complete, 140 lbs.... 25.00

No. 10—12 feet, 10 blades, open center, weight complete, 140 lbs.....\$22.50
 No. 11—12 feet, 15 blades, weight complete, 185 lbs.... 30.00
 No. 13—One 8½ and one 9 feet, 23 blades, gang, fully rigged, weight 250 lbs..... 47.50
 Extra blades, \$1.50 each; weight 5 lbs. each.
 Extra frames, \$1.00 per foot; weight 10 lbs. per foot.

TERMS: Cash with order, except to dealers with established credit. All quotations f.o.b. The Dalles, Oregon

W. A. JOHNSTON, Manufacturer

Long Distance Phone, Red 991

Office and Factory, 422 East Third Street, The Dalles, Oregon

Question of Storage and Transportation of the Apple Crop

Henry Blakely, General Western Freight Agent Northern Pacific, Tacoma, Washington, before Fruit Growers' Conference

STORAGE and transportation of the apple crop of the Pacific Northwest are possibly two of the most important items to be considered. In previous years, when the crop of the territory was limited, the railroads rather forced competition for its transportation. The conditions during the past season have been such that I think each of the active competitors in the Yakima Valley has been a little afraid of getting more than they wanted. Nevertheless, I believe the crop has been fairly well taken care of during this season. The future, with the greatly increasing crop from year to year, as the additional trees come into bearing, however, gives the railroad companies as well as the growers no little anxiety. We can see a prospective crop of apples ranging from 25,000 cars upward in the three Northwestern States within a period of no great time. What is to be done with this crop is a problem for the carrier as well as for the producer—the producer to get a market which will pay him something

for his crop and the railroads to provide ways and means, if possible, for transportation of the crop. Anyone who will undertake to figure out the daily requirements in transportation as to cars and train service to satisfactorily market forty thousand cars of apples, putting that as the maximum, in a period of one hundred days, I think, will realize the magnitude of the problem which confronts transportation lines. The movement of this business is essentially at a time of the year when the railroads are generally crowded to their limit with all classes of transportation, because by the middle of August the roads in the Pacific Northwest start in with the transportation of grain to the Pacific Coast. The crop for this past season will probably run up to sixty odd thousand cars, possibly more than that. It, of course, moves in a longer period of time than the fruit, because we go through to the next harvest before all the grain warehouses are cleaned out, and sometimes if the prices are not right it is carried over into the second season. The fruit crop cannot be handled on that basis. In addition to the grain, we have a large lumber movement in the fall, and I am suggesting this with the idea of showing that it is not a period of light transportation demands on the railroads, but that at the time the fruit moves they are at their maximum operation. Now, to throw this additional burden of from twenty-five to thirty or forty thousand cars of apples on the few transportation lines that serve this territory creates more of a task than they will be able to meet, not only as to train service but as to supplying cars. The distances of the movements are so great and the hazards of transportation in the way of frost damage through the Northern States, Montana, Dakota and Minnesota, make it necessary that special equipment should be provided for this service. We cannot expect to transport this fruit in ordinary box cars, unless it be the earliest shipments. It must ordinarily be in a car which provides protection to a great extent against frost. The refrigerator, therefore, is in demand. The remedy, it appears, for the transportation hazard is a provision for storage of a very large percentage of this crop where it is grown, or in the immediate vicinity of the orchard, and to encourage this it is expected, naturally, that the railway companies, in order to place this crop in storage, should make low rates to the storage point, if it involves a back haul, or should make transit storage rates if the point of storage is directly intermediate with the final destination.

The suggestion in the article just read by Mr. Irish on the question of markets is a good one—to keep all the markets open, both East and West, for the taking up of this crop. I under-

stand some new departures have been made this year as to the territory in which the crop is to be placed. Some cars, I believe, are being sent to Mexico, which seems something new. The foreign market is bound to increase with the completion of the Panama canal, and with cold storage facilities provided in the vessels which will operate between the Atlantic and Pacific Coasts, there is going to be an opportunity to place large quantities of apples in Boston, New York and other Atlantic Coast cities without paying the

COLLEGE TRAINED HORTICULTURIST

With executive ability and many years' experience, wishes position as manager of an orchard or farm. Not afraid of work. Does not drink or smoke. References. F. W., care "Better Fruit."

Experienced Pruner

Is open for engagement

Address XL care "Better Fruit"

SEED POTATOES

Selected Burbank and American Wonder Potatoes. Grown on non-irrigated soil in the Cascade Mountains. Will keep till July. Price \$1.50 per 100 lbs., delivered in White Salmon or Underwood.

Mountain View Orchards

HUSUM, WASHINGTON

Spray with Nitrate of Lime

It is in an ideal condition for spraying purposes—mixes easily with water and is unique in the possession of sticking power.

Nitrate of Lime

contains 13% Nitrogen—in a readily available form combined with Soluble Lime.

Write for literature from users, both Hawaii and California.

C. HENRY SMITH
(Incorporated)
311 California Street
San Francisco, California
Agents—Pacific Coast and Hawaiian Islands



Lockstitch Sewing Machine. 60c each, 2 for \$1.00. Waxed Thread free. Stamps taken. Snap for agents. W. A. Mackenzie, 263 Lloyd Building, St. Louis, Mo.



"RANGER" BICYCLES
Have imported roller chains, sprockets and pedals; New Departure Coaster-Brakes and Hubs; Puncture Proof Tires; highest grade equipment and many advanced features possessed by no other wheels. Guaranteed 5 yrs. **FACTORY PRICES** direct to you are less than others ask for cheap wheels. Other reliable models from \$12 up. A few good second-hand machines \$3 to \$8. **10 DAYS' FREE TRIAL**—We ship on approval, freight prepaid, anywhere in U.S., without a cent in advance. **DO NOT BUY** a bicycle or a pair of tires from anyone at any price until you get our big new catalog and special prices and a marvelous new offer. A postal brings everything. Write it now. **Tires** Coaster Brake Rear Wheels, lamps, parts, and sundries half usual prices. Rider Agents everywhere are coining money selling our bicycles, tires and sundries. Write today. **MEAD CYCLE CO., Dept. PM-269 CHICAGO**

TREES

WE GROW EVERYTHING THAT GROWS

It makes no difference what you may want to plant—we can supply you. In our immense nurseries, comprising over 1,900 acres, we grow everything that grows. Fruit trees, ornamental shrubs, plants, palms, roses, berries, grape vines, etc.—all guaranteed true to name, carefully dug and packed for shipment in "A1" shape.

We call special attention to our magnificent collection of

APPLES	PEARS
APRICOTS	PEACHES
ALMONDS	LEMONS
OLIVES	ORANGES
PLUMS	PALMELOS

and a fine assortment of hardy field-grown Roses.

BURBANK'S LATEST CREATIONS

We are authorized commercial propagators and distributors for Luther Burbank's latest fruit introductions. There are some new and particularly fine novelties that we have been growing for this season's trade and will be glad to furnish full information upon request.

LET US KNOW YOUR PROBABLE REQUIREMENTS

It will pay you to get in touch with us at once and let us know what your probable requirements will be for the season—or send us your list for prices.

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the fruit growers' guide. Contains 120 pages profusely illustrated, describes over 2,000 different varieties of trees and plants. Contains valuable suggestions on planting, pruning, etc. Price 25c postpaid. Write for it today.

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PASADENA, CALIFORNIA

cost of transportation that is necessary to cover the expensive rail haul, so that I think the grower can keep that in mind; and not only is this true with regard to transportation cost of the fresh fruit, but he may consider the same factor with evaporated fruits and canned fruits, which may be put on the Atlantic Coast at very much less cost than is required for the rail service.

I have made some memoranda in regard to expenses for storage and the facilities for such storage in towns, both East and West. At Duluth we are quoted five cents a box the first month, four cents per box for each month thereafter. Insurance in this case was quoted at twenty cents per hundred dollars per annum, the rate being unusually low because of the fireproof character of the storage, and there being practically no risk. At Kansas City we have a rate of ten cents per box for the first month, five cents per box thereafter; a maximum price, however, of fifteen cents for the season's storage; insurance at one dollar and a half per one hundred dollar valuation per annum. Of course, these insurance rates for short terms are proportionately higher than the one-twelfth, for instance, for one month. At Chicago the quotation is five cents per box per month, with a minimum, however, of twenty-five cents for the season; insurance ranges from one dollar and thirty-five cents to one dollar and a quarter, according to the character of the structure in which the apples are stored. In St. Louis we have a quotation of fourteen cents per box for the season; insurance at one dollar per one hundred dollar valuation. At St. Paul storage at five cents per box, with a minimum rate of six cents. Five cents per box rate to hold throughout the season for as many months as are used. The insurance at St. Paul is forty cents per one hundred dollar valuation per annum, based on the fireproof character of the structures. At Hannibal, Missouri, there is a quotation of sixteen cents per box for the season. No rate was named there per month. The insurance at that point ranges from one dollar to one dollar and twenty-five cents per annum on one hundred dollars. Milwaukee, five cents per box for the first month and four cents per month thereafter, and no insurance rate is quoted at Milwaukee.

Of course, the shipment of this fruit to the East for storage requires a provision for the payment of the transportation cost. The storage companies, we are advised, object to an investment to the extent of the transportation charge, and where it is made they are asking a guarantee from the transportation companies of its payment, or would generally, we understand, draw on the shipper for the amount of the freight charges. Where it may be carried under this protection of the storage company they charge a rate of six per cent interest. Of course, with fruit stored in the East where the storage company is carrying this additional

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what Luther Burbank, that Nature Wizard, says about the use of

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as a fertilizer. "Where the Nitrate of Soda is used I find a greatly increased ability to resist drouth and lack of cultivation," he writes. Nitrogen is the basic plant food. Nitrate of Soda contains 15 per cent nitrogen, immediately available, the largest amount in any fertilizer.

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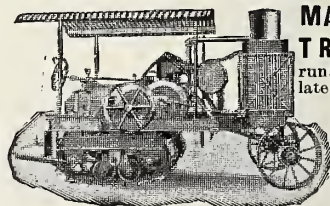
Located in earliest section of the YAKIMA VALLEY, one mile from station. Consisting of 20 acres of Elberta Peaches 6 years old, 15 acres of Bartlett Pears 6 years old, 10 acres of Apples (4 standard varieties), domestic orchard, and 10 acres unplanted. Excellent water right, fully paid. Improvements consist of: House, barn, tool, engine and bunk house, 30x60 packing house, icehouse, chicken houses, and all small buildings. Domestic water under pressure in house, barn and packing house; 4 head of horses, 3 wagons, plows, discs, cultivators and all tools necessary to run place. Best of reasons for selling. **WILL BEAR CLOSEST INVESTIGATION.** For price, terms and all particulars, address "U," Lock Box 93, North Yakima, Washington.

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risk, the owner must expect that if signs of deterioration or any other hazard are developed the warehouseman would ordinarily protect himself by putting the fruit on the market. As to storage in the West, the opportunity is apparently very limited. At Spokane, I understand, there is less capacity than three hundred cars at this time. The rates have been quoted at five cents per box per month with a minimum storage charge of ten cents, by one concern. Another quotes four cents per box per month with a minimum of ten cents, insurance ranging from \$1.35 to \$1.50 per annum for one hundred dollars' valuation. The only other point in the State of Washington for which I have any figures as to storage is North Yakima. The rate at that point, I am given to understand, is ten cents per box the first month and five cents per month thereafter, with season rates ranging from twenty to twenty-five cents per box. The insurance at \$1.35 and \$1.50. I have asked for some information with regard to the conditions at Hood River and am advised that the capacity of the association there is storage for six hundred cars, and the rate is twelve and a half cents per box for the season. This Hood River organization, I understand, ships about sixty per cent of its apples immediately following the harvest; that the balance is put on the market in the East to meet the demand and to secure for themselves, as they should, better prices which rule during the later season.

One suggestion as to the importance of storing at home rather than in the East is the saving in the investment of the freight charge. Six hundred boxes of apples, which would ordinarily be considered as a carload, weigh ordinarily thirty thousand pounds. The rate to Chicago and other Eastern cities is one dollar per hundred, making a freight charge of three hundred dollars per car for transportation. One thousand cars on this basis would be \$300,000. Assuming the crop of the Yakima Valley to be five thousand cars the amount would be \$1,500,000. Assuming further that the storage period will average four months in Eastern territory before sale and that the interest charge is six per cent per annum, the rate for four months would be two per cent or \$30,000, or enough to pay freight on one hundred cars to the Eastern destination. That is a saving that could be made by storage at home.

I have commented on what I think to be the inability of the carriers to take care of the extensive crop which is in prospect during the next few years. Assuming a crop to be 20,000 cars, which it is likely to be within a very short time, if it were moved in 100 days—which would be necessary if it were put on the market immediately or stored in the East—it would require provisions by the carriers to take care of 200 cars per day. If it was shipped regularly, this would require a supply of refrigerator cars of not less than 4,000, assuming that it took twenty days



Burning of Foliage Weakens a Tree and Lessens Production

Foliage injuries and tree poisoning usually occur just at the time when the tree needs every particle of strength it possesses to produce a good fruit crop. If a second growth of foliage is made necessary it is obvious that the tree is handicapped and the quantity and quality of the yield diminished. For this reason the selection of a spray material is important. If you're not familiar with the chemical make-up of a good product, buy

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and depend entirely on the reputation of the manufacturer. For a number of years this brand has been the standard—equal to the best and better than many. S-W Arsenate of Lead is effective because it contains the maximum amount of arsenic which will remain combined with the lead. It is safe because it does not have excess or loosely combined arsenic, which is liable to become liberated and burn the foliage. It is economical because it covers the largest area of foliage and adheres to it for the longest possible time. S-W New Process Arsenate of Lead is the one brand for consistent, uniform results.

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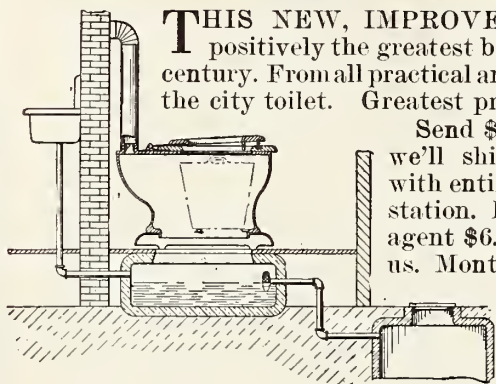
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THIS NEW, IMPROVED "SANODOR" TOILET is positively the greatest boon to rural districts of the 20th century. From all practical and sanitary purposes, better than the city toilet. Greatest preventor of disease ever known.

Send \$1.00, cash or money order, and we'll ship "Sanodor" Interior Toilet, with entire outfit, to your nearest express station. Examine it. If satisfactory, pay agent \$6.50 and balance, \$20, direct to us. Monthly payments of \$5, if you wish.

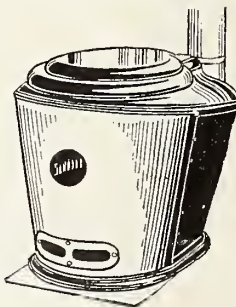
**NO SEWER, WATER
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NO EMPTYING**

Illustration at the right explains entire working of "Sanodor" Toilet. Can be installed in one hour's time. An ordinary barrel will serve as vault below toilet. If desired galvanized vault will be furnished at slight extra cost. The powerful chemical absolutely destroys all germ life and odors. Empty but once every three to five years.

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to make the round trip to the East and return the empties back to the shipping points. That is figuring on something which I doubt could be accomplished, especially if the apples were shipped to a destination east of Chicago. The conditions, as I stated, which are causing such an anxiety to the railway companies, can only be met by some provision for and the investment of a considerable amount of money in facilities for storage at home, and also facilities looking to the marketing of by-products and taking care of that portion of the crop which is not in a condition to go to the Eastern markets as green fruit. Evaporators and canneries, it seems to me, are essential to the success of the fruit industry of the Pacific Northwest, and these should not be what may be termed individual or local plants, but should be of such a character as to insure a market for a very large percentage of this crop at one point, and organized with a competent manager, one who knows how to evaporate fruit, and how to preserve it and put it on the market in first-class condition, in a manner that will encourage the buyer to come back to the same plant the next season. This is one of the things that must be looked to. The difficulty with a little plant is that it does not turn out enough product to stand a large overhead charge; cannot afford to engage a superintendent or a chemical director, nor the class of skilled operatives so important to the success of large plants of all kinds and especially so in the preparation of foodstuffs for world-wide distribution. What I feel should be effected here is the organization of large orchard product companies. They need not necessarily be composed of the growers. The interest in this particular branch of production in the Pacific Northwest is something that must appeal to the banker, to the jobber, to every citizen of the larger towns on the Coast and in the interior, who are trading with the people, operating these branches and undertaking to get the products from the soil. We find in the grain industry that it is not the farmer who builds a mill in which the grain is manufactured into flour. Somebody from the outside is in that branch of the service. Why should not somebody from the outside come in and put up these canneries, put up these fruit evaporators, and make that a trade? Pickles, cider, vinegar and all those by-products of the fruit ought all to be taken care of by a man who is a specialist in his line, and it should not be put up to the farmer to organize a small company, hire somebody who has pasted labels on a can in some plant and put him in charge of the canning industry on the ground that he is experienced. Some organization for the by-products, or for the canning and evaporating should be established, I think, as is with the milling industry, and the man who grows fruit ought to be able to load it on the cars somewhere near his ranch and then get his money and be relieved from any further responsibility for it. I do not think there is any other way to get at

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Especially Adapted Against All Climbing Insects

The Superior Tree Protector will prevent climbing insects from reaching the leaves and buds of a tree or plant. It will not wear out, will not get out of order, remains the same when the sun shines, when the rain falls, or when the sand blows, and automatically adjusts itself to the growth of the tree. It is easily put on, is perfectly harmless to the plant, and is effective in every instance for which it was designed. You cannot afford to waste your time poisoning cut worms or catching bud weevils when you can procure this preventive at a trifling cost. Once put on, it requires no more attention. Don't wait until the damaging results of the insects show on the trees, but protect them AT ONCE.

PRICES F.O.B. BRIDGEPORT, WASH., AND PORTLAND, OREGON

- No. 1—For 1-year-old trees.
Less than 1,000.....2½c
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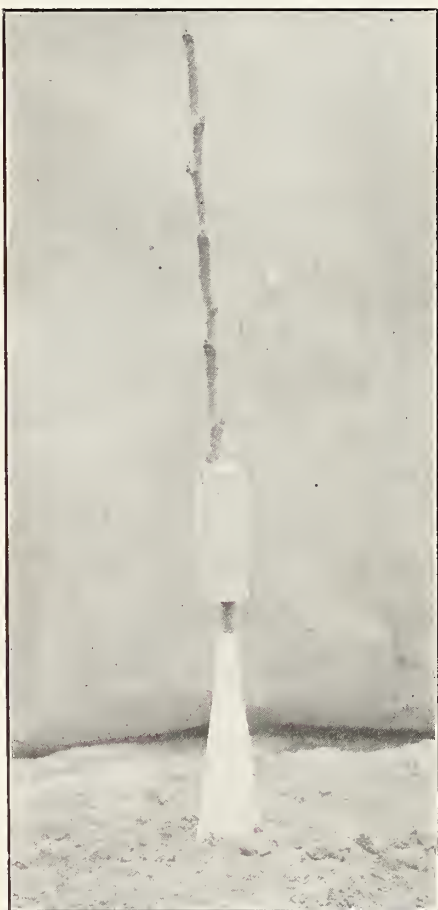
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AGENTS WANTED



it. It seems to me such an organization could not only handle the dried fruits and canned fruits, and the cider and vinegar, but might take hold of the cold storage proposition as well. It would be an ideal organization to have them all together. In such case it would be possible for an orchardist to sell his entire product to such a concern, and it could be graded for shipment East as green fruit, and the poorer grades could be manufactured into other products.

I want to cite a few figures in regard to what has been done in California as to canned fruits and evaporated fruits. The report for the operations in this state of the crop of 1911 shows the export crop to be distributed as follows, that is, these are the countries of the greatest demand for the different classes of fruit: Evaporated apples went to Germany and the Netherlands; apricots to the United Kingdom, France and Germany; peaches to Canada and Germany; prunes to Canada, the United Kingdom and Germany; raisins to Canada and New Zealand. This shows what may be done in the way of exporting the cured fruits, as they are called, to foreign territory. I regret I have not the figures to show just what these exports were to the different countries for that time. I note from the report as to the canned goods production of California during the year 1901, the entire product was 2,677,082 cases. In 1911, ten years later, this grew to 4,182,650 cases. This indicates that California, which was supposed to be a remarkably great producing state in fruits ten years ago, had not much more than begun to can the fruits of the country. I urge, not upon the grower but upon the banker, the capitalist, the irrigation company and all people who are interested in the settlement of this country, the railroads as well, careful, studious consideration of the remedy for the present difficulties. There can be no question but that the present conditions are very unsatisfactory. There can be nothing but anxiety in contemplation of the future success of the fruit-growing industry, with no better surrounding conditions than at present, that is, no better facilities for taking care of it at home or protecting the grower in his market for his best fruits, or a market for dried products and canned products.

Editor Better Fruit:

The writer wishes to thank you personally for the papers you have sent and assure you that we never lose an opportunity of saying kind things for the "Better Fruit." With our best wishes for your continued prosperity and appreciating the good work that you are doing for fruitgrowers, we are yours respectfully, Richey & Gilbert, Toppenish, Washington.

Editor Better Fruit:

We appreciate your journal very much and must say it certainly brings results as an advertising medium. We consider it one of the best fruit journals published in the United States. All who are interested in the growing of fruit should not be without it. Very truly yours, Lafayette Nursery Company, Lafayette, Oregon.

Editor Better Fruit:

We find that our advertising in "Better Fruit" is very satisfactory and for the coming fall we shall plan to run our copy probably all through the winter. Your truly, Glen Bros., Rochester, New York.



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By strict field supervision, by careful selection of strain and variety, by testing in our perfectly equipped seed testing laboratory we are prepared to offer you a grade of seed that stands the severest test for purity and germination.

Inferior seed is costly, even if it is to be had as a gift. We do not offer bargains or special price inducements—neither do you want them. Buy the best seed—you have only one chance at the same crop.

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Our 1913 Seed Annual (published for 22 years) is complete with descriptions and prices of Vegetable, Flower, Grass and Field Seeds, besides a list of all other goods sold by us, such as Spray Materials, Cultivators and Drills, Nursery Supplies, Bee Supplies, Stock Foods, Poultry Foods. This Catalog Mailed Free.

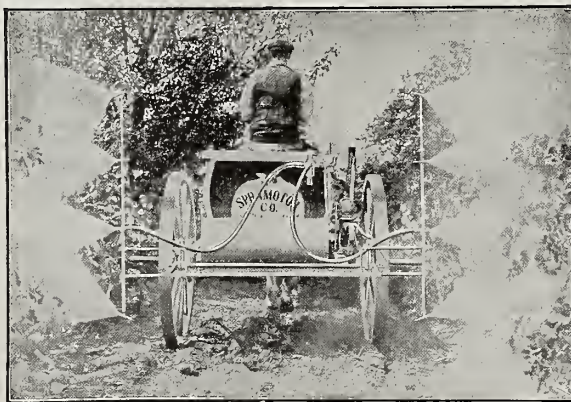
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Get full value from your orchard. Erect an Apple Evaporator of your own. The cost is small. Profits large. Send for our new catalogue. All about Evaporators. How to erect and how to run them.

IT'S FREE. SEND TODAY.

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"The Oldest Apple Evaporator Supply House in America"



The H.P. Spramotor shown here is *equally efficient* on row crop or orchard work. Twelve nozzles that cannot clog—sprays with 125 lbs. pressure—gets after germs, parasites, canker worms, makes the blight impossible, giving crops *greatest possible* chance for maximum development.

This machine *will thoroughly spray* two acres of row crop in 30 minutes—the *increased yield will refund* cost several times every season.

NOTE—There's a Spramotor *built for your exact requirements*. Prices range from \$6.00 to \$350.00. You owe it to yourself to find out all there is to know about it. We forward you the facts with our treatise on "Crop Diseases" without placing you under any obligation to buy.

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Now is the Time to Plant For the Vegetable Garden

Morse's Golden Cream Sweet Corn, Prolific Black Wax Beans, Kentucky Wonder Pole Beans, Early Bush (Summer) Squash, Rocky Ford Muskmelon, Tom Watson Watermelon.

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Large Flowering Branching Asters, Camellia Flowered Double Balsams, Climbing Variegated Nasturtiums, Double Chrysanthemum Flowered Sunflower, Rose Bushes.

The above are all described in
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Also all other fruit trees and small fruits. We have a large surplus that must be sold. High grade stock and very low prices. We pay transportation. Send a list of your wants for prices.

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UNION NURSERIES

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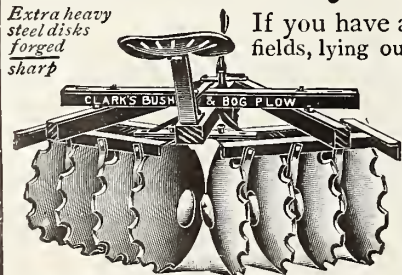
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I have 350,000 plants to offer, which are big, healthy, vigorous and heavily rooted, that will grow and produce big crops of extra early, large size berries, that command the highest early market prices. Fresh dug and packed to carry any distance. 200 plants \$1.00—\$3.00 per 1,000, by freight or express. Special prices on large lots.

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BUSH AND BOG PLOVER on the job. You will be astonished at what this big, strong, heavy plow or disk will do to it. Let us tell you more about this tool. Write today for catalog and B. & B. circular.
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Makers of the original CLARK double action harrows

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CLARKS

Makes Meaning Plainer

Comment on "The 1912 Apple Market, Evils Shown and Remedies Proposed," published in "Better Fruit" March, 1913:

Medford, Oregon, February 18, 1913.

Editor Better Fruit:

It is certainly a mistake to say, "You cannot prevent a disease by spraying, but you can cure and eradicate it." Now, as we all know, the whole theory of the use of a fungicide is in its preventive, or prophylactic, powers. It concerns itself with the application of deleterious substances (fungicides) to the host in order that the germination and growth of fungous spores may be prevented. The use of fungicides may take the form of disinfection of the seed or of propagative parts, or even the application of reagents to the soil in order to prevent the growth of the fungus in the vicinity of the host plant. Once a fungous spore, e.g., a scab spore, germinates and sends its germ tube beneath the epidermis of the apple fruit, spraying will not cure or eradicate it. In the case of anthracnose, we know that spraying in the fall of the year will prevent an attack of anthracnose; but spraying in the spring of the year will not cure the lesions which have been produced during the previous winter by the attacks of the anthracnose fungus. Once a cell, or group of cells, is destroyed, there is no cure. Tissues may arise from uninjured cells and only from them. We spray not because plants are diseased, but because we do not want them to be diseased. Of course, by this we do not mean to say that one should spray for apple scab where it is known that, owing to favorable climatic conditions, it does not exist. For instance, in the Rogue River Valley spraying for scab is not practiced, excepting in a very limited way in some of the higher mountain valleys where climatic conditions are favorable to the scab fungus. Common sense would tell us that we should not spray for bitter rot of apple on the Pacific Coast, for the reason that bitter rot is not a disease which troubles us here. In the same way, the apple growers of the Eastern states should not spray for apple anthracnose, because, owing to their climatic conditions, the organism causing this disease does not exist in the East.

Sincerely yours,

P. J. O'GARA,

Pathologist in Charge and Special Meteorological Observer, U. S. Weather Bureau.

The editor meant by the expression "You cannot prevent a disease by spraying, but you can eradicate it," that where no disease exists it was not necessary to spray. He assumed the expression implied an absence not only of the disease itself but of infection or cankers, from which spores originated that produced the disease. In other words, if there are no anthracnose cankers in the orchard there would be no anthracnose spores. If there was no scab, as is the case in arid climates, there would be no scab, and therefore it would be unnecessary to spray. His idea was the same as in medicine. Smallpox is about the only disease you can prevent, and that by inoculation. There is no remedy that will cure disease that does not exist. However, the comment of Professor O'Gara should clarify the meaning of the expression as used and remove any possibility of misunderstanding.

Milton Fruitgrowers' Union

At the annual meeting Manager Mumford reported the crop of winter apples handled by the association amounted to 146,790 boxes, 40,000 of which were still on cold storage in January. The prices realized for extra fancy stock sold at that time were: Ben Davis, 79 cents; Jonathan, \$1.07; Arkansas Black, \$1.16; Newtowns, \$1.02; Winesaps, \$1.26; Rome Beauty, \$1.02; Red Cheeks, 86 cents.



Did you have Spray troubles last season? Some growers had very serious ones.

WHAT'S THE USE?

Why risk your crop by using new and untried preparations? Let your Experiment Station do the experimenting.

Why not use an ARSENATE OF LEAD that has successfully weathered the varied climatic conditions of Washington, Oregon, Idaho and Montana the past four years?

The Grasselli Brand Has Done This

IF IN DOUBT

Ask your local or state authorities. They are best qualified to advise as to local conditions.

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Cashmere Fruit Growers' Union	Cashmere, Washington
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Rogue River Fruit and Produce Association	Medford, Oregon
C. J. Sinsel	Boise, Idaho
Yakima County Horticultural Union	North Yakima, Washington

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The Grasselli Chemical Co.

CLEVELAND, OHIO

Storage and Transportation

Letter from Howard Elliott, President Northern Pacific Railway, read at Fruit Growers'

PLEASE deliver the following message to Mr. H. C. Sampson, general manager of the National Apple Show: "I deeply regret my inability to be present at your fifth annual meeting, as I would like to manifest by my presence my appreciation of the excellent work being done by the National Apple Show in promoting the apple business in the Northwest." It is only a few years since the first shipment of apples was made from the Northwest and already it has become one of the important agricultural industries. And upon its success depends the prosperity of a

large number of people, which will steadily increase as production increases. Therefore the welfare of the industry and the successful working out of the problems that now confront it are of general interest.

It is generally recognized that the Northwest produces the best apples grown anywhere in the world, the soil and climatic conditions are ideal, and taking advantage of these conditions, industry, intelligence and science have worked together to produce the highest grade of fruit. But, having raised this splendid fruit, the next problem is to

place it within reach of the consumer in perfect condition, and that is one of the difficulties that has arisen with the growth of the business. The producer and the consumer, as a rule, are a long distance apart. The apple grower of the Northwest has practically the whole of the world for a market, and as time goes on and production increases he must utilize this market continuously. The principal element of the problem is that we are dealing with a crop that must be harvested in sixty days but the consumption of which extends over a whole year, therefore the crop must be stored somewhere in the intervening period.

It is a physical impossibility for the transportation companies to attempt to move the crop of the country in two or three months, and not only is it a physical impossibility but it would be an economic waste, because a considerable portion of the plant required to accomplish this would necessarily remain idle for a considerable part of the year. Also, the additional investment in transportation facilities, on which a return to the investor would have to be made, would necessarily result in a decided increase in rates; all of which makes it manifest that storage must be provided for apples as is now provided for all other crops, but is more urgently needed for apples because of their perishable nature. For precisely the reason given above as the necessity for storage, to-wit: the physical impossibility of moving the crop in a short period of time, it seems obvious that a very considerable part of the storage must be provided at or near the point of production, supplemented by storage at one or more large cities from which fruit can be distributed quickly to consumers.

The other important problem is the utilization of what may be called the by-products. No matter the skill and care with which an orchard is handled, there will always be a varying percentage of fruit in such condition that it will not stand the cost of long-distance shipment. This class of fruit must be dried, canned or converted into other valuable products, such as vinegar and cider. But little of this is done now, doubtless because the fruitgrowers' business is so new in the Northwest. Already, however, the waste is very large and need of preserving plants urgent. The fruitgrowers of the Northwest must expect the same keen competition that exists in all other lines of business and be prepared to meet it, and it may be well that the profits resulting from the utilization from what is now wasted will determine their ability to meet the competition of other fruit districts. Therefore two problems require immediate consideration, storage and utilization of by-products. These problems must be taken in hand by the producers of fruit; the railroads are doing all they can to provide adequate transportation. For example, in 1912 the Northern Pacific purchased fifteen hundred refrigerator cars, and for 1913 eleven

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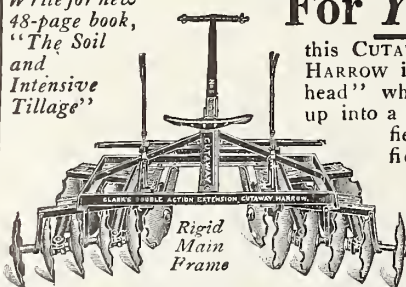
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hundred, making two thousand six hundred cars in two years, or an investment of more than \$3,500,000. To provide the necessary transportation will take very large sums of money, so the responsibility of raising the money needed for storage and making of by-products must rest upon those engaged in the business of apple raising. The National Apple Show in the last few years has done its work in proving to the world that the very best apples can be and are raised in the American Northwest. Having succeeded in that, the same energy and brains can make a success of the marketing, storing and utilizing of by-products if the same attention be given to those features of the business as has been given to the growing.

Spraying Trees In Bloom

By H. F. Wilson, Assistant Entomologist, Oregon Agricultural College, Corvallis

UNDER the heading of "Caterpillars, Codling Moth, Aphids," in the January number of "Better Fruit," pages 16 and 17, Mr. W. H. Volck, horticultural commissioner Santa Cruz County, Watsonville, California, makes the following statements: "Owing to the very early attacks of tussock caterpillars, canker worms and leaf folders, the first sprayings should not be delayed until the blossoms have all fallen, but applied while the trees are in bloom. The period from full bloom to the time when two-thirds of the blossoms have fallen appears to be the most practical timing. Spraying with good arsenicals will cause no injury to the blossoms. * * * Apply the first spraying when the trees are in bloom, full bloom to the time when two-thirds of the blossoms have fallen." Note that he states that the time mentioned appears to be the best. This recommendation, which is undoubtedly given on reliable data and experiments, is a very dangerous one for both the beekeeper and the horticulturist. Certainly such a practice cannot help but cause the destruction of insects which feed upon the nectar of the blossoms and climbing about over them in search of it aid in cross pollenization. In localities where it is followed the honey bees will be destroyed, and one of our local beekeepers suffered such loss from the spraying of a single orchard that he was compelled to move to an entirely different locality.

It is a common recommendation of this station to suggest bees for the orchard and farm, both for the value received from the cross fertilization of fruits and the surplus honey secured. In view of this recommendation I will state that in Oregon we have the tussock moth, canker worm and several caterpillars which cause more or less damage to the fruit, but only in one instance have they caused enough damage to make it necessary to consider methods of control other than those now in use. In localities where it becomes necessary to combat these early-feeding caterpillars, the spray should be applied before the blossom buds open. At that time the young



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eaterpillars will be feeding and should be more easily destroyed than a week or ten days later.

There may be some opposition to this extra application on account of the cost, but surely the value of the cross-fertilized fruit over the self-fertilized will be more than the cost of spraying. Just how much we can depend upon the wind and air currents for distributing pollen is hard to say, but several investigators have carried on experiments which tend to show that not as much pollen is distributed in this way as one would expect. In conclusion I would suggest that the fruitgrowers of every state should be careful about spraying when the trees are in bloom, and such a practice should only be resorted to as the last and final means of insuring a crop of perfect apples.

Hood River Area Soil Survey

The field work of the soil survey of the Hood River area, Oregon, made by experts of the Bureau of Soils, United States Department of Agriculture, has been completed. The report will be issued some time during the latter part of the coming summer. The area surveyed comprises parts of Hood River County, Oregon, and Clatsop and Skamania Counties, Washington, and contains 250 squares miles, or 160,000 acres. The survey was made in order that the department might show the crop adaptations of the various types of soil in the area and make recommendations as to what methods of farm management should be practiced to obtain larger returns per acre and at the same time maintain or increase the present fertility of the soil. A soil map, showing in colors the location and extent of the various types of soil encountered in the area, and the location of all farmhouses, churches, schools, public roads, streams and railroads in the area, will accompany the report.—Contributed.

Around the World With A Shipment of Apples

Mr. H. M. Gilbert of the Richey & Gilbert Co., Toppenish, Washington, started for Europe and the Far East about the first of February to make the "Around the World Cruise" from New York, which will make it possible for Mr. Gilbert to study the markets abroad and also to introduce our Northwest apples into Eastern countries which have neither tasted or seen our wonderful red apples. Mr. Gilbert has been provided with letters of introduction to the consuls at the ports he expects to visit and will also have samples of apples which were especially selected and packed by his company for this trip. He has made arrangements with the steamship company to furnish them a supply of apples to be used on this trip. It is the aim of Mr. Gilbert to push the introduction of Winesaps especially in the Far Eastern markets, such as Japan, Manila, China, etc.

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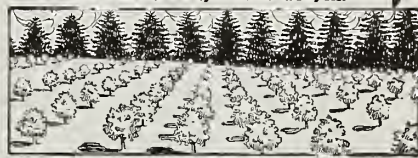
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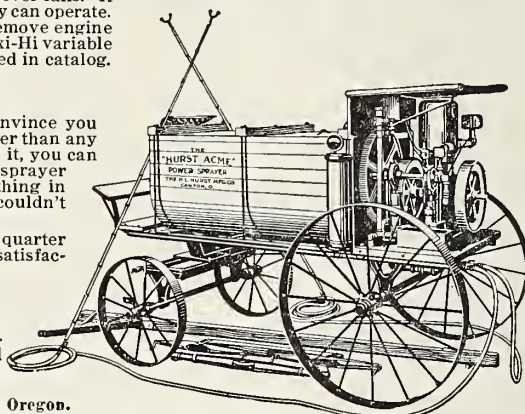
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Intercropping Orchard Land

By Arthur G. B. Bouquet, Section of Market Gardening, Oregon Agricultural College, Corvallis

THE outstanding feature of the business of fruit growing is the awaiting the day when the orchard, by its first box of fruit, will begin to pay dividends on the primary investment. Up to that time, to use a common expression, it is a question of everything going out and nothing coming in. One of the big problems of the fruitgrower is, therefore, apparently economical orchard management and, further, of meeting current expenses. In but comparatively few cases do we find the owners of fruit land placed in such a position financially as to be able to hire their work done and wait with folded arms the harvest day. But we find many a prospective fruit seller devising ways and means of meeting the maintenance expenses by employing some other form of agriculture on the farm. It is not the intention of the writer to discuss at length the pro and con of the intercropping with vegetables idea. Individual circumstances will be the governing factors in most cases as to whether or not this practice will be used, and while there are men who financially don't need to intercrop—others, who for reasons preferred by them, would not intercrop at all anyway, particularly with vegetables, yet we must not overlook in our list the grower who perforce must live as best he can until his trees bring him in his first dividend on the land and tree outlay.

Under some circumstances it may be possible for the orchardist to select a piece of ground outside of his fruit area and convert it into his intensive vegetable

land, and thus be unhampered by trees and tree operations. Intercropping with vegetables is a hazardous proposition at best. It has been severely criticised and censured as being not only impractical but positively harmful. True, it has been abused, but the practice was not the foundation for failure so much as the man himself who did the work. Intercropping puts another iron in the fire which must be handled at the proper time. There is always the possibility of one or the other of the irons being neglected, and if it is the trees it is a ruinous proposition.

The primary consideration of the fruitman is to find the most economical outlet for his perishable produce. Don't grow the stuff and then hunt up the market. Inquire diligently into conditions existing in your individual home market. Ascertain what is lacking in the line of first-class vegetable produce at certain times, then make an effort to supply it. The cannery will furnish in some sections an especially attractive and reliable means of disposition. If this is to be the market eater to its immediate needs, even to the proper horticultural varieties of vegetables used in the pack. If such crops as onions, potatoes, melons, etc., are to be grown community growing and shipping should be practiced and arrangements made for co-operative marketing in carlots. Under most circumstances it would be better to avoid the larger commission markets of the state because of the unfamiliarity of the grower to this form of agriculture and the pos-

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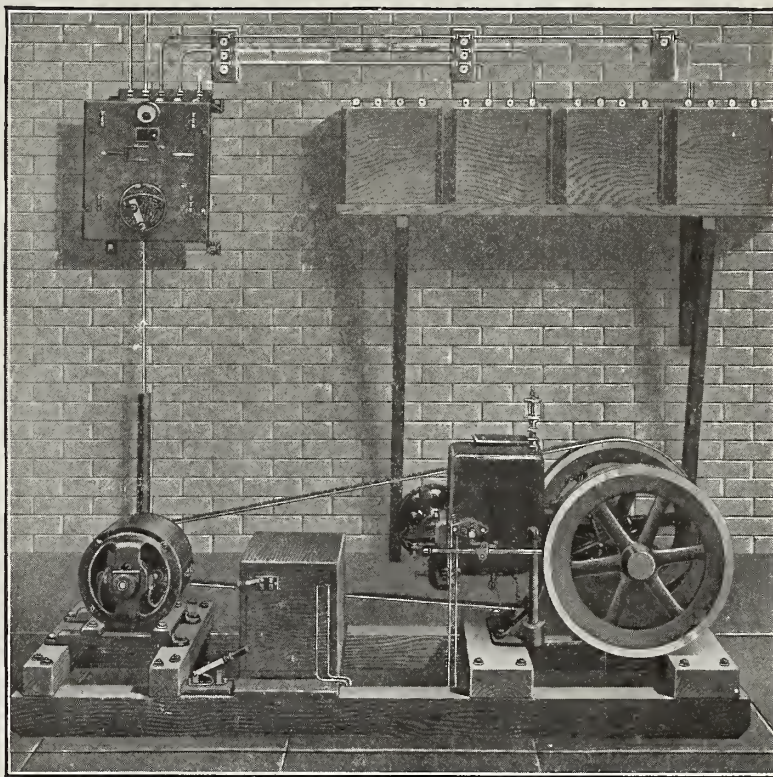
sible falling down on the necessary details of growing and marketing which are well known by the commercial market gardener.

Let no one be deceived. Vegetable growing in the orchard or anywhere on the fruit farm means a good deal of detail work, plenty of obstacles are there to be overcome and problems solved, and very often orchard management details come at a time when the vegetable crop is just in a proper stage to be handled. Very often the orchardist is far from being a first-class gardener, and this lack of knowledge brings him to grief possibly at a critical time, and extra labor, time and money are gone for naught. Such crops as cantaloupes, cauliflower, celery and tomatoes are not too easily handled to the best advantage, and a thorough working knowledge of the problems concerning these vegetables is necessary. Moreover, the Northwest fruitgrower who is going to intercrop with vegetables must remember that the vegetable markets of Oregon or Washington doesn't want and can't use inferior stock on the open markets which will tend to their collapse at critical times. The same standard of grading and packing as is observed in the marketing of fruit is an essential in the proper preparation of vegetables for market.

To get any perishable produce disposed of economically the fruitgrower must have quick transportation. No holding or storing is possible. When the crop is ready it has to go and there are no delays. A most important consideration, in my mind, is the question of possible equipment for properly handling this class of work on the place—equipment of labor, time, materials. There will be extra teaming, more time spent on soil preparation, money for weeding and cultivating and general operations. Various crops, such as cabbage, tomatoes, cauliflower, etc., will require handling under glass during early spring, thus causing extra outlay. I would warn growers who have not such equipment to exercise extreme precaution in buying plants to be later field set. This is a most important question. If you are to intercrop successfully your prime requisite must be superior plants, even as you would purchase nothing but the first-class tree in setting the orchard.

By the time this issue of "Better Fruit" is in the hands of its readers it will be time for growers to plan intercropping operations and decide upon their markets, crops and equipment. Seeds of early vegetable crops should be planted under cover no later than March 1, and earlier in some sections. Hotbeds should be made up a few days previously and preparations made for fertilizers and soil preparation for later transplanting. If the market selected for crop disposition is the local one or consignment at a distance spring operations should be pushed early to have the produce arriving at profitable times. There is not much left for the fruitgrower who does not ship early.

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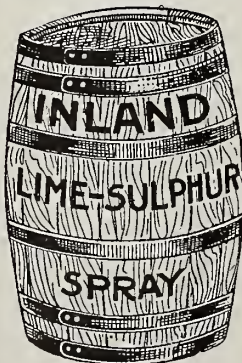
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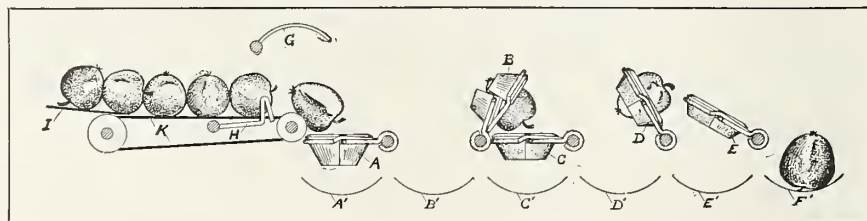
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Considerable care will have to be exercised by the fruitman in choosing the vegetable for intercropping. Soil characters and elevation are the chief factors in selection. In most instances commercial fruit soils are not commercial garden lands. The alluvial peach lands or sandy loams are the nearest to being the most desirable for trucking, especially for the production of early vegetables. These soils will produce a very large variety of vegetables, have great advantages of earliness, quick decomposition of fertilizers, are easy of cultivation and well adapted to irrigation. Early tomatoes, peas, beans, melons and all early truck can be profitably grown on these lands. Elevations of orchard lands vary so considerably that it becomes an individual problem very largely as to what particular crops are best adapted to that section. As a rule where the land is high onions, lettuce, cabbage, cauliflower, etc., and many of the root crops are decidedly superior to all others. Crops of a more tender nature should be discarded and planted on the warm slopes of lands situated nearer sea level. But few vegetables can be handled successfully and with economy on very heavy lands such as some of our pear lands and some stickies. Heavy applications of manure will very largely improve matters and help to give better soil aeration and drainage, but conditions on these soils are palpably contrary to the best growth as exhibited on other types. Relations of soil, climatic conditions and crop are well illustrated by certain regions in Umatilla County where vegetable crops are limited in number commercially but where watermelons, cantaloupes, peppers and eggplants thrive wonderfully. Usually on irrigated lands the variety of vegetables that may be grown is larger than that on the unirrigated, the fine nature of the former lands and the possibility of watering being advantageous.

If an early crop of vegetables can be grown and then the land cleared off before cover-cropping time so much the better. Such crops as early cabbage, early potatoes, young beets, early lettuce and cauliflower represent such crops, but some of these need extra equipment, as I have before noted, which oftentimes is prohibitive. The cultivated crop grown from seed is the most economical one to grow. String beans for the cannery or dry-shell beans furnish two crops that are usually sold without difficulty. Slopes for early crops, such as southeast or northeast, should be taken advantage of, and such varieties as Burpee's Stringless Green Pod or Refugee for the green bean and the White Marrow for the shell are suitable. Cabbage and cauliflower thrive particularly well on strong soils such as many of our apple lands, but they must have an abundance of plant food, especially cauliflower, and plenty of water. The peak types are the best for early planting, and there is no better variety for the late fall and winter trade than a good Denmark strain of Danish Ball-head. Where

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the soil is well drained and the land may be cropped during the winter late cauliflower or what is known as broccoli, being a hardy crop, is a good one to grow at that time, finding a ready market from November to April. Prospective growers should apply to the writer for seed and information. Dry onions in many districts grow to good advantage and sell readily through winter and early spring and can be kept in storage during those times. The marketable sort is the Oregon Yellow Danvers. The finest of seed beds, early seeding in the spring in fourteen-inch rows, clean weeding and proper maturity of uniform sized bulbs are factors that will make this a valuable crop, particularly on the free irrigated lands in various parts. Celery of the Golden Self-Blanching variety is readily salable in most districts, and where it is large and of fine nutty quality is much sought after. Possibilities of extending the winter shipping of this vegetable in some favored parts are good, as the market very materially improves late in the fall. Rows two and a half feet apart and plants six inches apart in the row will require about 30,000 plants per acre, consequently the work of plant production is no mean factor and often prohibitive. Boards are usually the best blanching agents. Tomatoes in most sections are valuable either for the cannery or for the open market. The early varieties should be grown, such as Earliana, Bonny Best or Jewel. The pollination of the blossoms to aid the early setting of fruit should be done by jarring the vines in warm weather. In regions where maturity is doubtful place the plants in the warmest location, train to a single stem, removing all laterals and train to a stake, plants two feet apart in the row. For blighted regions the best preventive apparently is to sow the seed directly in the open ground, covering during cold weather with plant protectors or a forcing hill, afterward thinning the hill to one plant. No blight-proof varieties of tomatoes are yet offered for sale on our seed markets and growers should not be misled on this score. In growing any vegetable crop ample room should be left for general orchard operations. No less than six or eight feet on either side of the trees should be between them and the first row of vegetables. There will be no economy in crowding. Spraying, pruning and orchard maintenance work must be carried on without interference.

The location of fruit farms often renders the question of fertilization a difficult one and a prohibitive factor in vegetable intercropping. Manure is often at a premium. The best yields and most satisfactory quality crops are those which are pushed hard with fertilizers. There is nothing that will give such satisfactory returns for all vegetables grown as well-rotted stable manure. The manure wagon should be busy during lulls in the orchard work if you are going to intercrop successfully. There are areas where manure will be very hard to get. Here the problem resolves itself into timely

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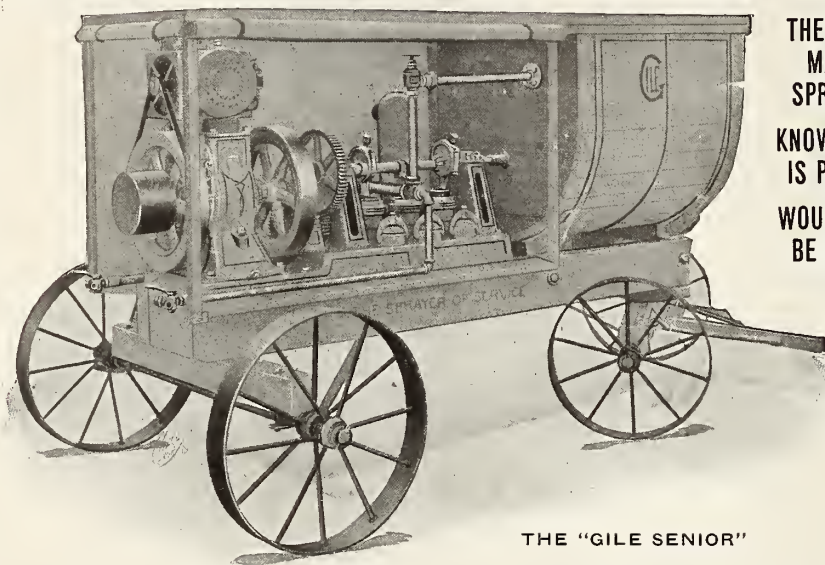
Plaster Paris

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Building Plasters

HOOD RIVER, OREGON

GILE POWER FRUIT SPRAYERS



THE WISE
MAN'S
SPRAYER
KNOWLEDGE
IS POWER
WOULD YOU
BE WISE
?

THE "GILE SENIOR"

The wise man carefully studies the question of sprayers and spraying and buys the best machine he can get—not the best for the price he pays—but the best machine on the market, and in the end this always proves the most economical and satisfactory purchase. It's mighty poor policy to invest in a machine which looks good until it begins to work—and then you discover that it is as cheaply constructed as the price. We have made a long and thorough study of spraying and sprayers, and as a result present to the fruit growing public a sprayer which more than fills all requirements, is as near absolute perfection as high grade material, superior design, and skilled labor can produce, and fully guaranteed in every way. We are ready and willing to place our sprayer in any orchard beside any other sprayer manufactured and leave the decision to the purchaser.

Our rigs are delivered complete, ready to SPRAY, except whippietrees and neckyoke. All engine and pump parts are interchangeable, which reduces repair expense to a minimum. Engines may be removed from sprayers by unloosening four bolts and sliding engine out of mesh with gears. This may be removed and replaced in a very few moments. This combines all the features of a high grade farm engine with the sprayer. We'll be glad to go into details with you—drop us a card today and start the New Year right with a resolve to increase your profits, then put your resolve into practice by ordering a GILE SPRAYER. We have sprayers in two sizes—GILE SENIOR and GILE JUNIOR, also Stationary Farm Engines, Pump Jack Engines and Electric Lighting Plants. Write for literature today—you can't afford to miss the opportunity of making 1913 your banner profit making year.

Complete
Ready to Spray
Guaranteed

**GILE BOAT AND
ENGINE CO.**

99 S. Main
Street

**LUDINGTON
MICHIGAN**



THE "GILE JUNIOR"

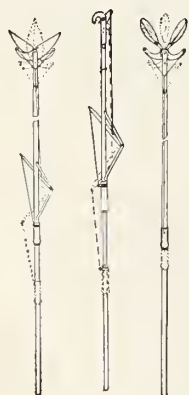
planting of cover crops and intelligent mixing and applying of commercial fertilizers according to the particular food requirements of the crop. Nitrate, bone meal, acid phosphate and muriate or sulphate form desirable fertilizing agents and amounts to mix up for a given area, together with best times for applying will be governed entirely by the crops grown. Complete information regarding mixing, amounts and times to apply will be readily sent upon request. Vetches and clovers are especially good crops to precede such vegetables as melons, potatoes, tomatoes and most other vegetables. If potatoes are to be the intertilled crop there should be planting of a uniformly selected variety and as far as possible community shippings, which fact will be true for most of the vegetables grown. Varieties to be grown will depend on individual sections and the character of the market supplied. The medium-sized long white tuber is the type demanded by the majority of dealers, and every effort should be made to improve the character of the potato grown by a thorough culling before sacking and proper selection of seed for the next year's crop.

With the above remarks the following suggestions are appended: The vegetable work in an orchard is of secondary character, but if properly handled can be made effective and profitable. Don't plant, as some have done to their discomfort, perennials such as asparagus and rhubarb between the trees. If you would grow these crops devote a piece of ground to them and eliminate the trees. Don't plant largely to one crop unless you have proven your soil adaptability and have a favorable outlet for the crop. You cannot grow the vegetables that will successfully compete on the open market without beginning by a finely prepared soil and an abundance of fertilizer. Our markets, especially the wholesale, need all produce. They have plenty of poor stuff. Therefore grade and pack carefully if you are consigning. Your market will be the factor in determining the kind of a crop you will grow and to what extent you grow it. Next in importance will be your natural ability in knowing how to handle the crop and the necessary equipment. Don't delay plantings of early seed crops and be timely in your transplantings. Don't condemn market, soil, climatic conditions if you don't get results. After all it is very largely the man himself, and the vegetable-growing business is not learned by one year's experience. Queries regarding the above will receive the immediate attention of the writer at above address.

Editor Better Fruit:

I enclose one dollar for renewal. I have often been at a loss to know how you have been able to put before the public so valuable a publication as "Better Fruit" for the small subscription of one dollar per year. I would willingly subscribe more if need be, as I find the information almost indispensable; in fact, no person interested in horticulture or fruit farming should be without it. It is honestly worth double. Yours truly, Robert Crerar, Sunnywold, British Columbia.

Made in Oregon



PICKERS-PRUNERS BASTIAN

How much good fruit do you lose?

Are you satisfied to lose it?

If not, get the Picker that will save it—Bastian's—the only one that picks as well as by hand.

PRUNERS—If you want to save time and money, get Bastian's, the most powerful and easily operated pruners on the market. Hooks for heavy work; shears for light work. Standard lengths: Pruners, 5 to 16 feet; Shears and Pickers, 5 to 12 feet.

For sale by all the best dealers

MANUFACTURED BY

Storey Manufacturing Co.

214 Front Street, PORTLAND, OREGON

Evergreen Blackberries

Specially Written for "Better Fruit"

FREQUENTLY someone writes in and wants to know how to get rid of Evergreen Blackberries. They state that there are large quantities of this berry found growing in their pastures and along their fence rows and they would like to know some easy way to get rid of the pest. The first question that will arise in our mind is, "Do we really have to get rid of this plant?" Is there not a possibility that we are trying to kill the goose that lays the golden egg? Newspaper reports state that in Puyallup this last season 58,000 cases of Evergreen Blackberries were shipped East. Our cannerymen all tell us that the Evergreen Blackberry is the best canner that we produce, that it has a good color, that it holds up well, holding its form when canned. It has the general characteristics of an ideal pie berry. One canneryman said recently he would like to be able to get hold of 500 acres of Evergreen Blackberries to sell to the Eastern trade. We admit that the quality is often poor and that for our own table use we prefer other sorts, but we must say that when the Evergreen Blackberry is properly grown it is a large, luscious and quite attractive fruit. When found growing where it is naturally supplied with plenty of moisture and plant food the berry yields tremendously and the fruit is large and meets all commercial requirements. Those who have tried the Evergreen Blackberry when it is poorly grown and found it a small, seedy fruit would not recognize the same fruit when it was given a little care. On the congenial loams and silt soils it grows very rank and can be trained very much the same as the Loganberry is trained. When the excessive canes are thinned out and the plant given good tillage it is one of the best commercial propositions the Pacific Coast has today.

It is confined largely to the same belt in which the Loganberry thrives, for, as it is an evergreen, it does not stand extremely cold weather unless it is protected, and often the protected canes do not seem to bear as heavily as those grown in regions which do not need protection. To the man who finds Evergreen Blackberries growing in his fields and pastures we have the following suggestions to offer. It would probably be better for him to not try to destroy them at all, but to see if he could not make them a paying crop. One grower in the vicinity of Salem has tried hauling in wet wheat straw and hay as mulch, has mulched the plant heavily, put up a few posts and strung a few wires and claims he can make more out of the Evergreen Blackberry this way than anything else he has tackled. The berries are growing on a clay soil. Those who are familiar with the habits of growth of this plant know that it tends to grow laterally, that instead of growing in tremendous clumps it has a tendency to grow in long lines, and thus it can be quite easily trained and handled at a very small expense



BAND WITH TREE TANGLEFOOT No Creeping Insect Escapes Its Sticky, Deadly Grip!

The destroying army is coming! Don't wait until you see the vanguard. Band your trees with Tree Tanglefoot two weeks before the Canker Worms, Climbing Cut Worms, Bag Worms, Gypsy, Brown-tail and Tussock Moth Caterpillars begin their ravaging work.

Easily and Quickly Applied With Wooden Paddle

Tree Tanglefoot is harmless and the only sure and safe protective. One pound makes about 9 lineal feet of band. One coating lasts three months and longer in any temperature, rain or shine—remains sticky

and powerful twenty times as long as any other substance. Needs no mixing—just open the can and apply. Will not soften or run down the trunks of the trees. Absolutely prevents any creeping, crawling pests from harming your trees.

Sold by Reliable Seed Houses

Prices: 1-lb. cans 30c; 3-lb. cans 85c; 10-lb. cans \$2.65; 20-lb. cans \$4.80. Write us today for valuable free booklet and name of nearest dealer.

THE O. & W. THUM COMPANY
Department C4, Grand Rapids, Michigan
Manufacturers of Tanglefoot Fly Paper and Tree Tanglefoot (4)

SPUDS

SELECTED SEED POTATOES

"Netted Gem, Burbank, Earliest of All"

Grown from Selected Seed

100 lb. sack \$2.50. 10 lbs. post paid within 3rd zone, 5 lbs. outside, for \$1

Mabton Valley Fruit Co., Mabton, Washington

To Destroy Aphis, Thrips, Etc.

WITHOUT INJURY TO FOLIAGE

SPRAY WITH

"Black Leaf 40"

SULPHATE OF NICOTINE

"Black Leaf 40" is highly recommended by experiment stations and spraying experts throughout the entire United States.

Owing to the large dilution, neither foliage nor fruit is stained.

Also, "Black Leaf 40" is perfectly soluble in water—no clogging of nozzles.

PRICES:

10½-POUND CAN.....\$12.50

Makes 1,600 to 2,100 gallons for Pear Thrips, with addition of 3 per cent distillate oil emulsion. Or, about 1,100 gallons for Green Aphis, Pear Psylla, Hop Louse, etc., or about 850 gallons for Black Aphis and Woolly Aphis—with addition of 3 or 4 pounds of any good laundry soap to each 100 gallons of water.

2½-POUND CAN.....\$3.25

½-POUND CAN......85

If you cannot obtain "Black Leaf 40" from a local dealer, send us P. O. money order, and we will ship you by express at the above prices, prepaying the expressage to your nearest railroad town in the United States.

The Kentucky Tobacco Product Company
INCORPORATED
LOUISVILLE, KENTUCKY

Get A Bigger, Better Fruit Crop This Year

Give your trees a chance to grow—their bark a chance to expand in a natural way. Protect them from the scorching rays of the sun, prevent them from dropping their leaves prematurely, thus making sure of a good crop.

Otwell's Tree Paint

(PATENTED)

For Summer Use

conserves the vitality of the tree by warding off the outside causes which waste its vitality. All the tree's strength and vigor can be turned into productive power. Also kills borers, bark lice, aphids, etc.

A gallon covers 100 to 300 trees, according to size. Just mix contents of package with cold water and apply to the trunk of the tree when in full leaf.

Sold by dealers: \$1.50 per gallon size package, 80c per half-gallon size package. If not handled in your locality send us your dealer's name and ask for our free booklet, "How to Insure Your Fruit Crop."

Manufactured exclusively by

Minnesota Linseed Oil Paint Co.

1103 S. THIRD ST.

MINNEAPOLIS, MINNESOTA



and a heavy yield secured. The berries when well grown in this way sell readily in our local markets. There is not a cannery in Oregon or Washington that would not be glad to get them and pay remunerative prices for them.

If you are bound to destroy the plant you will find it a hard customer to tackle. You may find that you will have to resort to frequent cutting back. Then if the patches are not too large you could use them as brush piles for burning prunings from trees and general farm refuse and burn the evergreens in this way. Spraying with kerosene or benzine may help keep them down, or possibly saturating the ground around with salt solution may be of some help, but it will only be by grubbing out, burning and everlasting keeping at it that you can keep this plant in check.

Discovers Why Apples Are High

The New York Sun of Friday, December 27, 1912, says: "Mrs. Julian Heath of the Housewives' League went out yesterday to see why apples are costing the consumer so much. Her campaign against the high price of eggs had taught her where to go, and she was pretty well satisfied after an investigation of the apple market that the fault this time lies with the retailer. Mrs. Heath's expedition started from the office of E. N. Loomis, president of the International Shippers' Association, and went all the way from the cars filled with barrels of Spitzenbergs, Stark's Delicious, Northern Spies and rosy Baldwins to windows of retail grocers far up town. The long apple docks at the foot of Barclay Street were lined with floats bringing apples from all the state over. Thirty-four cars came in yesterday, and the wholesalers told Mrs. Heath that this was a small number. At the height of the season there come an average of 100 cars, bringing 15,000 to 20,000 barrels a day. And 75 per cent of all the apples that come to the local market are Baldwins, as that is an apple that doesn't need all the care and attention bestowed upon its more aristocratic fellows.

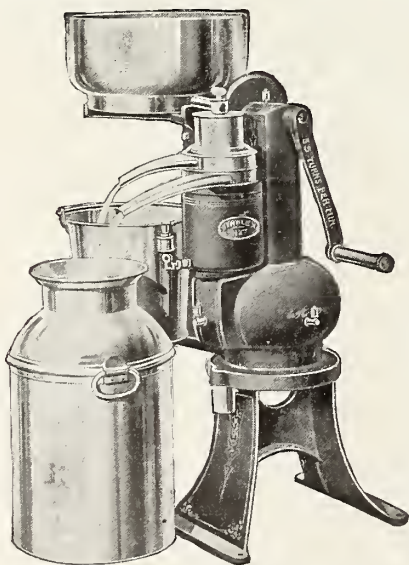
"Mrs. Heath looked down the long dock to see barrels everywhere filled to the top with Baldwins. The wholesalers were asking \$2.25 for a barrel of number one Baldwins, that is to say apples that measured two and one-half inches and upward. She was told that never before in the history of the market had there been such a supply of apples. During the last few years, said the wholesalers, thousands of acres and millions of apple trees have been set in every part of the country where an apple could possibly grow. This year the apple crop amounts to over 40,000,000 barrels. The crop is being ground into cider, evaporated, shipped in bulk, barrel and box and is going into a multitude of storages for winter use. So the first thing to be noted down in the investigator's book was the fact that the prices we pay for apples can't be charged to the supply. Mrs. Heath doesn't think it is the whole-



Real Estate

Twenty-five years' residence in Hood River. Write for information regarding the Hood River Valley. Literature sent upon request. Address all communications to

W. J. BAKER & CO., Hood River, Oregon



You Can Believe the Man who uses a Simplex Separator

The real test, in the dairy, is what counts on cream separators. Read what this man says:

"Having used your Simplex Separator for some time, I can truthfully say I like it better than any other machine I have used."

W. E. Cromer,
Springwater, Oregon.

You can profit by the experience of others. No need to try other makes. You can have the best right from the first. Send for the FREE Simplex booklet \$28 today.

MONROE & CRISSELL

145 Front Street, Portland, Oregon

A full and complete line of Dairy and Creamery Machinery and Supplies

salcer's fault this time. She watched the apples coming off the cars for a while, was told in the midst of the clamor and confusion of their unloading that she ought to come down on the dock at a real busy time, and then having learned that the wholesalers were charging \$1.50 to \$1.75 for number two Baldwins, those under two and one-half inches, started out for the retailers. She said she was surprised at two things when the trip was done. First, that it was so hard to find any stores, large or small, that carried Baldwin apples, and, second, she was astonished at the prices charged. She went into little groceries along West Street, almost in sight of the docks, that were overflowing with barrels of Baldwins and was told that it was impossible to get Baldwins, or else that Baldwins were high. She went further uptown to hear the same thing. Too high or too scarce was the inevitable answer to her request for Baldwins.

In the second place, when she did get a price quotation she almost gasped when she was told that number one Baldwins were selling at fifteen cents a quart or thirty-five cents a dozen. Out came the note book and pencil again and the investigating committee of one did a little figuring. The result of this was that Mrs. Heath found that the retailer buying Baldwins at \$2.25 a barrel and selling at fifteen cents a quart was making way over 300 per cent profit. There are about ninety-six quarts in a barrel. Now as the object of the Housewives' League is to find out just how cheaply the consumer can get his food and at the same time leave a decent profit to the shopkeeper there was more figuring, with this result: The retailer who sells a quart of Baldwins at five cents can make a very liberal profit. This, then, is the result of the trip around the apple market: The crop has never been so large. The groceryman with several lean years behind him is disregarding this fact, as is the public. He has no pressure to keep his prices down, and as a consequence the apple lover's pocket suffers."—"The Spy."

The officers of the Western Fruit Jobbers' Association for the year 1913 are as follows: President, Samuel E. Lux, Topeka, Kansas; first vice-president, E. H. Emery, Ottumwa, Iowa; second vice-president, C. B. Bills, Sacramento, California; third vice-president, T. A. Cargill, Houston, Texas; treasurer, W. M. Roylance, Provo, Utah; secretary, W. D. Tidwell, Denver, Colorado. The next meeting will be held at Kansas City, Missouri.

Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., where the people can depend on getting most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible. Try It.

[Advertisement]

CORONA DRY POWDERED ARSENATE OF LEAD

Here is a Dry Powdered Arsenate of Lead that stays in suspension longer than any other arsenate of lead—dry or paste—has greater spreading properties, and holds longer on the sprayed leaves and fruit.

A new chemical and scientific discovery, of amazing value to fruit growers. Manufactured by an entirely new process. Patent applied for. Different from and superior to any similar insecticide. Mixes quickly and easily in water. No sediment. No lumps. No waste. Never clogs spray nozzles. The pest-killer to depend on.

Codling Moth, commonly called APPLE WORM—attacks any variety of apples. Little Turk or PLUM CURCULIO—attacks plums, peaches and apples. Both these pests are great money-losers for fruit growers in all sections.

These losses are avoidable. It is now entirely possible to control, to exterminate, these and other fruit-destroying insects. But one must do the right thing at the right time. The answer is—Spray with Corona Dry Powdered Arsenate of Lead.

Corona Dry Powdered Arsenate of Lead removes every objection heretofore raised against such insecticides. It contains nothing but lead oxide and arsenic oxide, the only two essentials of an arsenate of lead. The difference between Corona and all other arsenates of lead—dry or paste—lies in the process of manufacture, and in this alone. The Corona product combines convenience, economy and efficiency. It has been put to test and proved to have the highest per cent of actual killing power.

Never before has there been a satisfactory dry arsenate of lead. The old-fashioned acetate or nitrate precipitating processes give a heavy, coarse substance, which quickly settles in the spray tank, making impossible a uniform strength of spray.

Corona Dry Powdered Arsenate of Lead is as soft as cotton and as fine as flour. Being lighter, finer and fluffier, it stays in suspension longer, has better spraying properties and adheres longer to the foliage. Less is required to each batch of spraying solution. Use one to one and a half pounds to fifty gallons of

water or fungicide. Study the illustration here shown and see the superiority of the Corona product.

One pound of Corona Dry Powdered Arsenate of Lead will do the work of two to three pounds of paste arsenate of lead—and do it more thoroughly. The Corona Dry Powdered Arsenate of Lead is more simple, cleaner and easier to handle than a paste material. Cannot freeze, dry out, cake or lose its strength. It has always the same high point of efficiency.

We can prove the unusual qualities of Corona Dry Powdered Arsenate of Lead by figures, testimonials and sworn tests. Every orchardist should write for illustrated booklet and further information about this new discovery. Ask about our consulting and service department. Write today—now. Address

Department E

Corona Chemical Co.

Milwaukee, Wisconsin

Manufacturers of Insecticides and Fungicides—Arsenate of Lead, Lime and Sulphur, Bordeaux Mixture, Paris Green, etc.



CORONA—PASTE—OTHER DRY

Above test shows suspension after standing five minutes. This proves Corona Dry Powdered Arsenate of Lead lighter and softer than either paste or other dry arsenates of lead.

H. S. GALLIGAN

C. F. GALLIGAN

G. T. GALLIGAN

True-to-Name Nursery

INCORPORATED

HOOD RIVER-DUFUR, OREGON

Wholesale and Retail—Sixteen years in the business

We offer for fall and spring 1912-13: Apple, pear, cherry, peach, apricots, plums and prunes of the leading varieties adapted to this locality. These are all grown on No. 1 whole roots from buds and scions selected from the best bearing trees in Hood River, hence we are in a position to not only guarantee our trees true-to-name but of the best bearing strains. Commercial orchard plantings our specialty.

If interested, write us—We have what you want

Address **TRUE-TO-NAME NURSERY** Hood River, Oregon
Phone 2072

BEAUTIFUL GARDENS.



Trees, Shrubs, Vines and Plants are the requisites for beautiful gardens. We have just issued our annual catalogue, "Trees, Shrubs, Vines and Plants." It is a 96-page book, full of illustrations. It will point the way to beautify your garden. Send for it today. *Mention this paper.*

J. B. PILKINGTON NURSEYMAN
2 ND. & MAIN STS., PORTLAND, ORE.

SUTTON'S SEEDS

Grown from Selected Pedigree Stocks
Awarded 514 Gold and Other Medals

SUTTON'S SEEDS
For All Parts of the World

SUTTON & SON
ENGLAND
Seedsmen by Appointment to
H. M. THE KING

A. J. WOODWARD
Vancouver—512 Granville St.
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Sole Agents for British Columbia

ELASTIC PRUNING PAINT

Saves Girdled Trees, Heals Cuts and Wounds, Prevents Decay, Stops Bleeding in Pruning, Cures Fungus Growth. A Positive and Effectual Remedy for the Treatment of Fruit and Shade Trees When Damaged. Use any time of the year. Write for Prices and Catalog.

Fruit Growers' Supply Depot. Best Tools of All Kinds, especially for Trimming Trees, etc. Best Harrows for Leveling Purposes.

F. G. MENDENHALL, BOX BF, KINMUNDY, ILLINOIS

BUY AND TRY

White River Flour

MAKES

Whiter, Lighter Bread

Loganberries

Specially Written for "Better Fruit"

THERE is a tremendous interest being shown in Oregon and Washington in the Loganberry. The business has been so profitable the past two years that a great many people are turning to this fruit as a source of future revenue, and undoubtedly if the business is properly handled and if the communities organize and develop the by-products, such as evaporated and canned berries and the manufacture of fruit juices, this berry will always prove to be very profitable. However, whenever a new industry starts up there are hundreds of people who go into it and make sad mistakes. In the first place, this plant has a restricted area in which it can grow, that is, it does not seem to be so particular as regards the soil, but it is quite particular concerning its climatic requirements, and regions subject to zero weather should not attempt to do much with the Loganberry. But we have a very large area of land in Oregon, Washington and some parts of Idaho which can grow the berry to perfection.

In starting, the great mistake that many will make is in buying poor plants. Under no consideration buy cuttings, but insist that you get either very strong-rooted tips or else good one-year-old plants. Next prepare your ground well, putting the vines out preferably in the spring, in March or early April. Plant them somewhat deeper than they were in the nursery. Put the rows about eight feet apart, and under average soil conditions put the plants about eight feet apart in the rows. If you should have unusually rich bottom land you can plant them ten or even twelve feet apart in the rows. Not only must you give your ground good preparation before planting but you must give the vines very good tillage for the first year. You will need to drive small stakes down next each plant, tying them up so they will not be damaged in the tillage. The plants may not make a great deal of growth until fall, but in September, October and early November they will make considerable growth. If you are contemplating going into the Loganberry business it will be well for you to correspond with the local experiment stations and get advice in detail from such sources.

Apple Sale Draws Crowd

The New York Morning Sun, December 31, says: "The idea of buying fancy apples—the kind that come wrapped in paper and when shined are sold regularly on stands at five cents apiece—of being able to get these at the rate of a cent apiece appealed to lots of people yesterday. If it hadn't been for the hard rainstorm all day there would no doubt have been an even larger crowd of buyers in the public market under the Queensboro bridge, where the Housewives' League had an apple sale at prices which, say the Leaguers, ought to satisfy any self-

Bees Help Fruit

You will get more fruit, better fruit, with bees in your orchard. Write for full particulars to

The A. I. Root Co.

Box 358 Medina, Ohio

NO MORE RABBITS If you want a cheap and safe method for keeping RABBITS and BORERS out of your orchard, paint your trees with "SULFOCID" the new concentrated sulphur compound. Easy to prepare and apply. One application lasts one year. "SULFOCID" solves the rabbit problem. Write today for booklet, "SULFOCID, Sure Protection from rabbits and borers." Address B. G. Pratt Co., 50 Church St., N. Y.



WINTER LAYING



WHITE BIRD FARM

82% in December

Some of our **R. I. WHITES** made this record.

Our little catalogue tells about it.

Write for it.

White Bird Farm

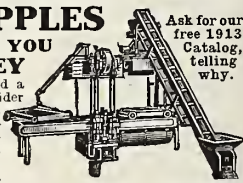
R. F. D. Box 14 B
Manette, Washington

YOUR APPLES

WILL NET YOU MORE MONEY

After you have installed a Monarch Hydraulic Cider Press, you are the largest user of presses, apple butter cookers, evaporators, etc., in the country.

A. B. Farquhar Co., Ltd. Box 112, York, Pa.



Ask for our free 1913 Catalog, telling why.

ARMY AUCTION BARGAINS

Saddles.....\$3.00 up	New Uniforms.....\$1.50 up
Bridles......39 "	Army Revolvers.....1.65 "
Team Harness.....21.85 "	" Rptg. Rifles.....1.48 "
Leggins, Pair......15 "	" Swords......35 "
Tents......2.20 "	" Shot Cartridges.....2.95 "
Colts Cal. 45, Revolvers.....\$ 7.50 up	Cartridges 1c each
Sp. Field Mower Sp. 1/2 R. 11.85	Cartridges 2c each
Army Breech Loading Rifle......98c	Cartridges 2c each

MARCH 1913 CATALOGUE, 400 large pages, over 5000 illustrations. 15 acres Gov't Auction Bargains described in cyclopaedia catalogue, mailed 25c stamps.

FRANCIS BANNERMAN, 601 Broadway, New York City

Make Big Money Drilling Wells!



Western Made for Western Use

IMPROVED STANDARD DRILLING MACHINE

One Man Can Handle

Has a record of drilling 130 feet and driving casing in one day. Only three levers. Extra large rope sheaves. Positively will drill every kind of formation. Avoid delays from sending back East. Buy from us. We build these up-to-date machines. Will tell you all in catalog. Write for it.

Reiersen Machinery Co., Manfrs., Portland, Oregon

\$75 SPRAYING OUTFIT

MYERS SPRAY PUMP gear driven by one and one-half h. p. gasoline engine, complete outfit mounted on a solid platform and can be set on any farm wagon. Write today for full particulars.

BLUFFTON MFG CO. Box 65 Bluffton, Ohio.

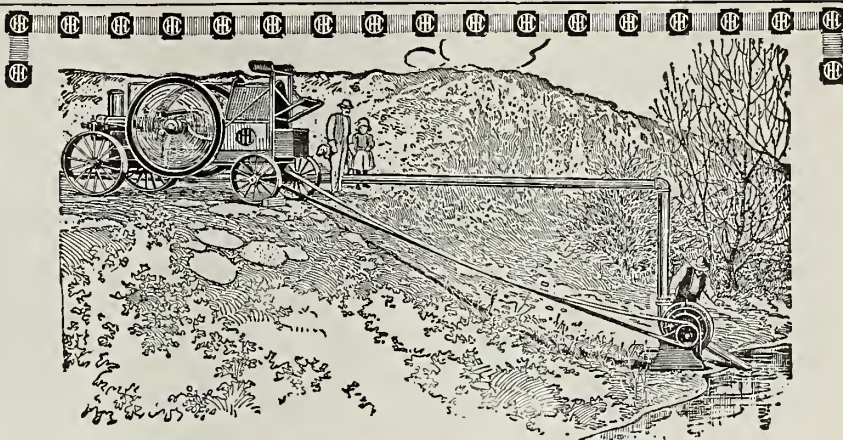
respecting retail fruit dealer, though they seemed remarkable to the customer. In spite of the weather the league made a success of the first day of its week-long apple sale. Perhaps the rain emphasized one feature of the present campaign for the reduced cost of fruit which the league did not count on. It was this: Persons who usually leave their household buying to employees and don't take any great interest in the prices paid were prominent among those who came to buy.

"The first signs of stirring trade were the splashing and gurgling of automobiles through Fifty-ninth Street. Their passengers were set down in the wet among the piles of barrels and boxes and had the experience of buying apples at what they were worth. Some of the women liked it so well that they bought several cases. The fruit was of the finest. Some of it bore Oregon marks, but most of it came from up state. Spitzenbergs and Northern Spies sold at \$1.50 a box of 120 or 150 apples. Before the day's sale was over it was evident that at least 200 boxes would be disposed of. A professor from the college of the City of New York, who had a healthy Yankee taste for apples, trudged down to the market in the rain and trudged away carrying his box of Northern Spies under his arm. But the people of the neighborhood about Fifty-ninth Street and Second Avenue, many of whom do not own ears nor teach, were the real customers. In fact, the feature of the sale was the five-cents-a-quart Baldwins, and they sold well."—"The Spy."

New York Retailers Are Not Handling Barreled Apples

Your careful attention is called to the interview with Mrs. Heath, reprinted from the New York Sun, and especially to the fifth paragraph. She there states that she was surprised "That it was so hard to find any stores, large or small, that carried Baldwin apples." She was further told by some of the retail stores that it was either "impossible to get Baldwins" or else that "Baldwins were too high." "Too high or too scarce" was the inevitable answer.

President Loomis writes the following after careful investigation: "Mrs. Heath mentions the evil which is only too noticeable, viz., that you cannot buy Western New York apples at any grocery store, neither Baldwins, Greenings nor anything else. The groceryman is not handling Eastern apples to any extent. You cannot find the Eastern barreled apples in the grocery stores around New York City. Just as all the consumers are insisting at the meat markets on buying porterhouse and sirloin steaks, so the grocery stores and fruiterer shops today carry practically only Western apples. This forces the Eastern barreled apples into the immigrant districts or for export trade. Little by little they have been shoved off the market that supplies the well-to-do and are no longer wanted in the condition that they now are packed.



Successful Irrigation

IS a reality when you are able to apply water to the soil in the right amount and at the right time. To be able to do this, you should control your own water supply for irrigating purposes. To have absolute control over the water supply, you should use an I H C engine to do the pumping.

IHC Oil and Gas Engines

furnish cheap, dependable power for all farm purposes and to operate all kinds of farm machines. For durability, they cannot be equalled. They operate on the most convenient and cheapest fuels—gas, gasoline, naphtha, kerosene, distillate, or alcohol. They are thoroughly tested before leaving the factory and made to develop 10 to 30 per cent above rated horse power. They are built in many styles—stationary, portable, skidded; vertical, horizontal; air-cooled, water-cooled; and in 1 to 50-horse power sizes. I H C oil tractors are built in 12, 15, 20, 25, 30, 45 and 60-horse power sizes. They furnish economical power for plowing, disking, seeding, harvesting, threshing, and for all kinds of belt power and drawbar work.

The I H C local dealer will tell you all about I H C engines. Get our catalogue on irrigation from him or write the nearest branch house.

WESTERN BRANCH HOUSES: Denver, Colo.; Helena, Mont.; Portland, Ore.; Spokane, Wash.; Salt Lake City, Utah; San Francisco, Cal.

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(Incorporated)

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D. Crossley & Sons

ESTABLISHED 1878

Apples for Export

**CALIFORNIA, OREGON, WASHINGTON, IDAHO AND
FLORIDA FRUITS**

Apples handled in all European markets at private sale. Checks mailed from our New York office same day apples are sold on the other side. We are not agents; **WE ARE SELLERS.** We make a specialty of handling **APPLES, PEARS AND PRUNES** on the New York and foreign markets. Correspondence solicited.

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JUDICIOUS SPRAYING IS AN EFFECTIVE FRUIT INSURANCE

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SUPPLIED BY WHOLESALE DRUGGISTS AND DEALERS THROUGHOUT THE UNITED STATES

POWERS-WEIGHTMAN-ROSENCARTEN CO.

Manufacturing Chemists

Founded 1818

NEW YORK

PHILADELPHIA

SAINT LOUIS

This does not mean that packing has gone back from what it was years ago. It means that new conditions have arisen, due to the superior grading and packing of the Western box apples, which, in spite of the claim made by the Easterner that the Western flavor is not equal to that of the Eastern apple, has gradually succeeded in taking its place in the retail shops of this city. Horticultural societies in the East cannot even realize this evil that has

already progressed very far. Their much-prized product is being shoved off the market among the poorer classes; their outlets are being limited, they can only get them back by raising the quality of the product, decreasing its supply by eliminating No. 2s altogether and by spending money in advertising to show the merits and the cheapness of Eastern apples. The fact that seconds are of service in household use is no reason why they should be marketed. Even the No. 1s are not considered good enough for general household use by the grocerymen who cater to the well-to-do. These are strange facts and I would not have believed them had I not investigated conditions."

Could any stronger argument than the above be advanced for the use of the Sulzer bill? A serious condition is revealed, but no more serious than we might have expected. Evil methods and practices long continued leave their impress. Nor can the box apple states view the situation with complacency. We stand or fall together. If barreled apples are driven out of the better class of retail stores they still force an outlet somewhere, and every package poorly, ignorantly or dishonestly packed, whether box or barrel, also destroys confidence in the apple somewhere. Lincoln once said, "The United States cannot exist half free and half slave." Neither can apple markets be broadened or become stable, nor confidence established or prosperity prevail with a pack that is half poor and half good. It is time everyone awakened. The Sulzer bill is the way of salvation."—"The Spy."

Retail Price Too High

The investigations of our association in New York City, in conjunction with the Housewives' League and by the Pittsburgh Chamber of Commerce, also instituted by our members, has emphatically confirmed the opinion long held, that retail prices substantially prohibited a large apple movement. It is probably true that there are too many retail stores, all under heavy expense of rent, plate glass, linen coats and deliveries to cater to the exactions of the public. It is also true that such commodities as sugar, Quaker Oats, Gold Dust, etc., are sold almost at cost

Tree Planting and Stumping POWDER

An honest product made by an Independent Home Company.

Are you going to plant trees or clear land this year?

Have you heard of "Imperial," the new explosive—superior substitute for dynamite and "King of all Powders"?

Won't freeze—no headache—safer than dynamite and does the same and better work with less powder.

Sold to you direct from the factory in any quantity from one box up at the same price that dealers pay for dynamite in carloads.

You buy "Imperial" by the box as cheap as they can buy dynamite from the manufacturer in carloads, and save middlemen, jobbers and dealers' profits.

Write. Let us tell you all about this powder, and prices, and how much money we can save you. Glad to answer letters.

IMPERIAL POWDER COMPANY

Drawer Y Chehalis, Washington, U. S. A.

SPRAY IN TIME

don't wait till the bugs show themselves. It's usually too late then. Be ahead of them with a Douglas pump and be glad in Fall that you waged war against 'em. This cut shows the "Arlington"—a big improvement over the common type of barrel sprayer. It is also a very popular style selected from many other

NEW
BOOK
FREE

DOUGLAS SPRAY PUMPS

It's a good "all around" type. Has no useless contraptions or attachments. Handles four leads of hose and sprays from four single or double nozzles. All parts are easily accessible from top of barrel. The entire pump can be pulled out for cleaning or inspection.

It's the handiest pump ever bolted to a barrel. Adaptable to either stave-side or head. The air-chamber has enough reserve capacity so that spraying continues some time after pumping stops. A strong, dependable pump—long-wearing under severe conditions. Sold by dealers, or shipped direct.

Free Book is doubly interesting to farmers. Tells vivid facts about spraying and fire fighting. Write now for it.

W. & B. DOUGLAS

81 Years at Pump Making
90 William Street, Middletown, Conn.

Any Gasoline Engine will Drive This Deming Sprayer

Here is our Duplex Outside-Packed Plunger Pump No. 761. It has two cylinders, both removable, a large air chamber, and bronze plungers and valve balls. It operates with a pressure of 200 pounds. The high pressure drives the poison into the crevices and kills all the pests, making good, clean fruit. It costs more than the ordinary sprayer, but it's worth it.

The men with whom fruit growing is a profession know that Deming Pumps stand the wear and tear of constant use—that they're made to last. Solid and simple, easy to operate, with nothing to corrode or rust.

ASK YOUR DEALER FOR

Deming Pumps and Nozzles

Deming nozzles used with Deming Pumps make a perfect combination. There's a Deming Pump (more than twenty kinds) and a Deming nozzle for every purpose. Your dealer handles them or can get them for you.

SPRAYING CALENDAR AND CATALOG FREE

Our catalog is a handsome book. It shows you every type of machine and nozzle and it contains a complete spraying calendar, with formulas, valuable to every man who wants better fruit and more of it.

THE DEMING COMPANY

100 Depot Street, Salem, Ohio

Manufacturers of Hand and Power Pumps for All Uses.

General Distributing Houses in all Principal Cities.

and as a result higher gross profits have to be exacted from other merchandise to prevent bankruptcy. However, this thing must be looked at from another standpoint. How about the grower of apples and the man who handles the fruit from the orchard? There is an investment on the producing end to be protected if prosperity is to be maintained. It is absolutely wrong in principle to make one commodity pay the profit on itself and a profit and expense account for some other commodity. Sugar, Quaker Oats, Gold Dust, etc., must pay their own way, and if linen coats, plate glass and the over-exactions of the public are in the way of a fair price on apples then they should be made to get out of the way. We must protect ourselves.

Now no apple crop of any size can be moved at a retail price of \$14.40 per barrel, or anywhere near that figure. The complaint is made with much justice in many cases that, owing to wretched packing, not more than 65 quarts of merchantable apples can be taken from a barrel by the retailer. Very well. Accept that as a basis and what do we find? Sixty-five quarts at 15 cents per quart is \$9.75 per barrel. Just a modest profit of \$7.50, or the wholesale purchase price of over three barrels of apples. Put them down to five cents a quart and even then, at 65 quarts to the barrel, they bring back \$3.25, or thirty-three and one-third per cent gross profit. Ninety-six quarts at five cents per quart means \$4.80 per barrel, or a gross profit of \$2.55. So, any way you figure it, five cents a quart at retail is ample. One man wrote that the retailers in his city were selling at sixty cents per peck and thought that was reasonable. Sixty cents a peck is \$7.20 per barrel, or a gross profit of \$4.95 per barrel. Did somebody say reasonable?

The more you look into this question the more justified our position appears. These questions will have to be fought out. There is nothing to be gained by fear or by letting it alone. The thing is absolutely wrong and we can be dead sure that if we don't fight our own battles no one else will. And, by the way, the remedy for measuring only 65 quarts of merchantable apples from a barrel holding 96 quarts is the Sulzer bill. Conditions never will be right until all of us use the Sulzer bill.—“The Spy.”

INTERNATIONAL APPLE SHIPPERS' ASSOCIATION
ADVERTISING COMMITTEE
Baltimore, February 18, 1913.
Editor Better Fruit:
I am amazed and gratified at the immense amount of publicity the apple is receiving, and I am firmly convinced that the efforts made along this line are the causes of the generally increased demand for apples all over the country. Your March number of “Better Fruit” I am sure will be a winner, for you are going to treat of the most vital question that confronts the apple interests of America today, and I am sure your work will make the road much easier for those who will have the raising of funds and general committee work to do. I await the March edition with a great deal of interest.
Yours very truly,
U. GRANT BORDER, Chairman.

“REVERO” SPRAY HOSE GARDEN HOSE

Reg. U. S. Pat. Office



Made in 500 Foot Lengths

Does Away with Leaky Couplings

LIGHT — STRONG — FLEXIBLE

Braided Moulded Construction
Seamless Throughout

Best Hose for Greenhouse, Lawns, Parks, Cemeteries, Stable, Garage

Furnished in 1/2-inch, 3/4-inch and 1-inch sizes
Will not kink, will not burst

MANUFACTURED BY

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WORKS:
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Boston, New York, Chicago,
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The Best Hose Made for Spraying



Write for Sample and Catalog “F”



We Fence Anything from a Lawn to a Railroad

NATIONAL RABBIT-TIGHT FENCE

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TURN THE RABBITS

We Make No Boastful Claims

About our business. We simply say that no nursery can serve you better. We know this statement to be true, for we have visited other nurseries and are familiar with their methods.

Our stock is carefully grown, well dug, closely graded and properly handled, and it will give satisfaction wherever planted. We ship anywhere in the United States and Canada, pay freights, and guarantee arrival in good condition. Send us your list. You will get what you order. Fruit, Shade and Nut Trees, Ornamental Shrubs, Vines, Roses, etc., in the leading varieties.

Columbia & Okanogan Nursery Co.

Wholesale and Retail Wenatchee, Washington

Forkner Orchard Cultivator



THE Forkner Spring Tooth Cultivator for orchards, vineyards and general farm use is a world-beater. Wonderfully light of draft—weight carried on wheels, not on horses' necks. Has great working capacity—20 to 30 acres a day with one team—and every inch of soil is cultivated thoroughly—lifted and turned in a long, wavy level. Strong, well-made, durable, easy to operate. Four independent sections under perfect control of driver—and depth of each easily regulated.

It Works Right Up to Your Trees

Hangs low and has wide extension, cultivating entire surface beneath low branches without disturbing boughs or fruit. Saves you time and trouble. Special forms for different uses and kinds of soil. Write today for descriptions and prices.

Send for This Free Book—“Modern Orchard Tillage”—written by a highly successful orchardist, contains particular information that may be worth hundreds of dollars to you. Sent free for the asking.



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AMERICAN ORIGINAL AND GENUINE FENCE

**For Big Profits
From Big or
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American Steel
Fence Posts
Cheaper than
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Durable.
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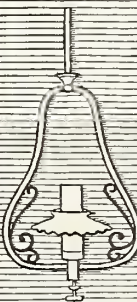
Two Great Books Free

"Making the Farm Pay"—a simple and short treatise on farming, covering the things every farmer and his boy should know—sent free on request.

"The Making of Steel"—a complete account, simply and clearly presented, with many illustrations. This subject never before presented in so concise a manner. Every farmer and his boy should read this. Sent free on request.

FRANK BAACKES, Vice-Pres. and Gen. Sales Agent
American Steel & Wire Company
Chicago, New York, Cleveland, Pittsburgh, Denver,
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SUN GASOLINE LAMP



You'll never know the best light until you use "SUN" LIGHT. No bother, odor, grease. Beautiful fixtures. 108 styles. Makes and burns its own gas. Satisfaction or money back.

An \$8.00 FREE to agents selling 6 lamps.

Get catalog and liberal terms.

Hollow wire system also.

SUN LIGHT CO.

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Our 1913 CATALOG

and Planter's Guide truthfully illustrates and describes the most profitable varieties for market and home gardens.

The Best of Everything for the Farmer, Orchardist, Poultryman and Beekeeper.

A Reliable Reference for Northwestern Growers FREE on request.

"UNIQUE"

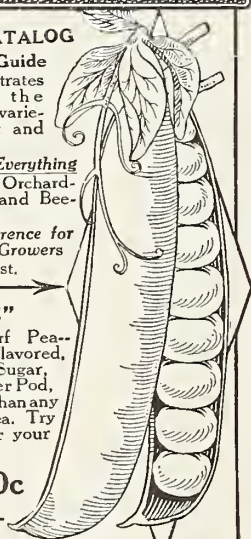
Earliest Dwarf Pea-Rich, Fine Flavored, Sweet as Sugar, Larger, Longer Pod, Bigger Yield than any other early pea. Try this Pea for your home garden.

LARGE PACKET 10c

PORTLAND SEED
COMPANY

PORTLAND, OREGON

Ask for CATALOG No. 200



Reducing Retail Price of Fruit

The mystery of the high cost of living is gradually being succeeded by the mystery of falling prices. First it was eggs. A few days ago reports began to come in from Philadelphia of an organization of women which, by some magic process, brought the rate down from its prohibitive altitude to a figure that was within the reach of almost anybody. Then other cities found their eggs suddenly cheaper. But as it was looking as if we might free ourselves from the octopus entirely by the simple device of sending against it a modern St. George in the guise of a National Housewives' Association we were thrown into painful doubt by the vigorous and apparently authoritative assertion that it was not the women at all who achieved the victory, but a law that had been put on the statute book by men. This was disheartening, but our spirits are revived this morning by the announcement that prices of apples are to be assailed by the same forces that championed the cause of the ultimate consumer in the egg war. As yet there is no suggestion of an existing statute that will operate automatically to lower these prices without anyone's raising his finger. The Housewives' Association puts the blame for the high prices squarely on the retailers, who, it asserts, can buy a barrel of apples for \$1.50 or \$2.25, but demand something like \$13.75 from the helpless consumer. The latter finds himself in a state of uncertainty over the question of whether eggs are to go up again, now that the embattled housewives have decided, as they put it, that "everybody is going to have all the apples he wants at a reasonable price," but he will consider himself lucky to get lower rates in even one product at a time.—"The Spy."

Publicity Campaign Grows

More has been accomplished along lines of publicity this year than in all the previous years put together. Nearly all the large cities have been able to do at least something and in many the public press has given extensive space to the apple. As an example of what has been and can be done, we mention a special article prepared by the association early in December which was sent to one of our members in each of the large cities with the request that publication be procured in such form as would meet the needs of that specific market. This article covered the size of the crop, the utility and healthfulness of the apple, its low price, advised purchases in wholesale quantities by the consumer and told him how to keep them until consumed.

Starting with this suggestion our members, changing and elaborating as circumstances demanded, were able to get valuable interviews in the papers of at least eight big cities, viz., the Minneapolis Tribune, Minneapolis Journal, Detroit News-Tribune, Pittsburg Chronicle-Telegraph, Cincinnati Times-Star, Philadelphia North American, The New

Dig Ditches With DU PONT RED CROSS DYNAMITE

QUICKER and cheaper than the shovel method. Ditches from 50 feet upwards in length instantly excavated. One man does the work of many. No re-shovelling of dirt necessary.

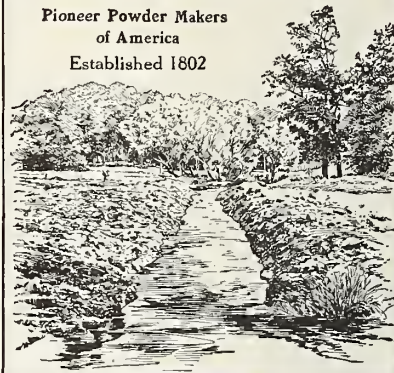
FREE BOOKLET

Explains how to safely and efficiently use Red Cross Dynamite to ditch and drain land, blast stumps and boulders, plant trees, regenerate old orchards, subsoil, excavate, etc. Write today for name of nearest dealer, or expert blaster, and Farmer's Handbook No. 338

Du Pont Powder Co.

Wilmington, Delaware

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Established 1802



PRATT'S HAND-BOOK for FRUIT GROWERS

There will NEVER be enough number one apples—ALWAYS too many cider apples. Don't waste your time and your trees growing inferior grades. Use "Scalecide" the one sure spray for San Jose scale, and produce number one fruit. "Scalecide" is 100% efficient against scale and has marked fungicidal properties. Used by best orchardists the world over. Endorsed by Experiment Stations. Our SERVICE DEPARTMENT furnishes everything for the orchard. Write today to Dept. "D" for new booklet—"Pratt's Handbook for Fruit Growers" and "Scalecide the Tree Saver." Both free. B. G. PRATT COMPANY 50 Church Street New York City

50-gallon barrel delivered to any railroad station in the United States, \$30

Harvey Bolster Springs

prevent damage to eggs, garden truck, fruits, live stock on road to market. Make any wagon a spring wagon. Soon save cost—produce brings bigger prices—wagon lasts longer—horses benefited—thousands in use—"my wagon rides like auto" say users. Get a pair at dealers. If not at dealer's write us. Insist on Harvey's. 40 sizes—fit any wagon—sustain any load to 10,000 lbs. Catalog and list of proofs free. HARVEY SPRING CO., 784 17th St., Racine, Wis.



GUARANTEED

York Times, Sun, Post, Globe and Mail. The entire trade, as well as the producer and consumer, is indebted for this service to the energy and interest of R. T. Ungerer of the Gamble-Robinson Commission Co., Minneapolis; D. O. Wiley of Detroit, R. H. Jones of Kansas City, John H. Hile of Louisville, Chester Franzell of Pittsburg, H. M. Weil of Cincinnati, E. T. Butterworth of Philadelphia and President Loomis of New York. No doubt other cities were equally alert and fortunate, but these places forwarded copies of the papers.

Minneapolis is also to be specifically congratulated on having adopted a definite local advertising campaign. The services of Mr. R. T. Ungerer of the Gamble-Robinson Commission Co. have been placed at the disposal of the Minneapolis trade, and definite and specific advertising is being done in the daily press of that city. Pittsburg has not only been a pioneer along this line but has kept in the forefront ever since. Their latest move was to investigate retail prices through the Pittsburg Chamber of Commerce, with results fully as startling as those in New York. A great deal more has been accomplished along these lines in these and many other cities throughout the country. The field is limitless with unbounded opportunities. Make use of the suggestions and experiences of others. In this issue of the "The Spy" many valuable hints and possibilities are revealed. Seize them and use them. It is urged that you correspond with members already engaged in the work. Also bear in mind that the president, Mr. Loomis, the chairman of the advertising committee, Mr. Border, and the secretary will assist in every way possible. Let us have copies of your daily papers containing publicity features.—"The Spy."

American Association of Nurserymen

Nurserymen are inquiring regarding the arrangements for the convention of this association which is to be held in Portland, Oregon, June 18, 19 and 20 next. J. B. Pilkington, the generalissimo of arrangements, and the secretary have been in frequent communication for the past few weeks and matters are shaping nicely—thanks to the popularity and enthusiasm of the general. In all probability the magnificent new Hotel Oregon will be chosen as headquarters. It possesses a palatial auditorium for meetings and a mezzanine floor affording ample space for exhibits, both of which will be placed at the disposal of the association free of cost. Hotel rates will be reasonable, varying from \$1.50 to \$3.00, one or two persons, without bath; \$2 to \$6 with bath; numerous elegant suites, composed of private parlor, private dining room and one, two or three sleeping chambers, with private bath, at rates furnished by the management on application. The great Rose Festival will be near its close, a large gathering of Pacific Coast nurserymen will be there and the



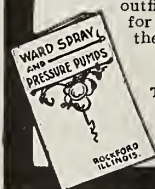
Ward Spray Pumps

When the time comes to spray, you MUST do it then or never. A few days or a week's delay may mean the loss of hundreds or even thousands of dollars. You absolutely cannot afford to take chances on a spray pump that may get out of order just at the critical time. You want the strongest, surest, most reliable pump you can get even if it does cost a few dollars more than the other kind. The name Ward on a spray pump is the mark of absolute reliability and highest efficiency. Honestly built of the best materials. Capable of high pressure to give a fine mist spray. All working parts made of brass, insuring long life to the outfit. Perfectly constructed to handle all kinds of mixtures and work right under any and all reasonable conditions.

TYPES FOR EVERY NEED—Barrel outfits, double action hand pumps and power outfits of various capacities. We can supply pumps only, or outfit complete ready for use, including tank, wagon and accessories. In the Ward line you'll find the very pump that best meets your needs.

Write Today for this Free Catalog and Spraying Guide

The buying of a spray pump is too important a proposition to go into blindly. Know which is best before you buy. Drop us a line now for our free book which gives complete information about Ward Pumps and is a valuable guide to profitable spraying.



WARD PUMP COMPANY

423 So. Water Street

Rockford, Ill.

The Northern Pacific Habit Is A Good One

Here is a recent testimonial, *entirely unsolicited*: "This being my 30th trip across the country on your line, I take this opportunity of expressing my appreciation of your splendid service."

We have many like it to show you. But the very best proof is for *you* to make the trip.

Those "Great Big Baked Potatoes" of which you have heard are served daily on Northern Pacific diners. We continue to use pure bottled spring water for both cooking and serving—also products from our poultry and dairy farm—and there are other features exclusively "Northern Pacific" which our patrons are finding good enough to talk about.

To CHICAGO via Minneapolis and St. Paul

The North Coast Limited
The Atlantic Express



Two Fast Trains You Will Like

If contemplating a trip, let us tell you of the fares, trains, etc. A letter or postal inquiry will receive our most careful attention.

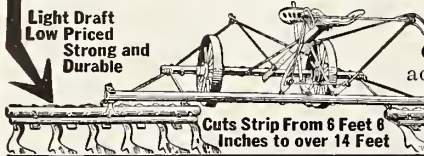
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We are quoting LOW SUMMER FARES
EAST, to be effective
May 28-September 30.

ACME COMBINED HARROW and ORCHARD CULTIVATOR

JUST what you need to boost your profits. Cuts, crushes, levels, turns—all in one operation. Creates fine mulch to conserve moisture. Turns weeds under—exterminates them. Horses kept away from trees. Coulters do not cut deep enough to injure small feeder—roots. Adjustable depth of cut. Many other features.

Light Draft
Low Priced
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Cuts Strip From 6 Feet 6
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Get all facts about construction and advantages of Acme in our catalog.

DUANE H. NASH, Inc.
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FACTS ABOUT THE SOUTHEAST

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REQUEST

Farm Lands Average Less Than \$17 Per Acre. Undeveloped tracts sell from \$5 up. Beef, pork, dairying, poultry, sheep and horses make big profits. Large returns from alfalfa, corn, truck, cotton, apples, fruits and nuts. Growers command good local and Northern Markets.

The Southern Railway Mobile & Ohio Railroad or Georgia So. & Florida Ry. territory offers the finest conditions for farms and homes. Plenty of rain, mild winters, enjoyable summers. Promising industrial openings everywhere. The Southern Railway has nothing to sell; we want YOU in the Southeast. The "Southern Field," state booklets and all facts free. M. V. RICHARDS, Land & Industrial Agent, Room 13 Washington, D. C.

STANDARD LIME-SULPHUR HYDROMETER, PRICE \$1.00 BY MAIL

Complete with Test Jar and Instructions.



Apply for Agency

CARBONDALE INSTRUMENT CO., CARBONDALE, PA.



RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

RHODES MFG. CO.,

520 S. DIVISION AVE., GRAND RAPIDS, MICH.

THE only pruner madethat cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

SASH and DOOR Catalog—free

It will pay you to find out what Sash, Doors and Millwork cost in Seattle, manufactured and sold under our simple system.

5 Panel Doors, inspected, 15 sizes.....\$1.40	Casement Sash, 10 designs, 46 sizes, up from.....\$.62
Craftsman Bungalow Doors, interior \$1.75	Inside Window Trim, 10 pieces, no waste.....\$.80
3-ply Fir Veneer Doors, guaranteed, 2'8"x6'8", 1 3/8 in. thick.....\$2.75	Inside Door Trim, 6 pieces, tied in a bundle.....\$.60
Craftsman Front Doors, many designs, up from.....\$5.00	2-Light Windows, 24x30, check rail, glazed.....\$1.21
Cottage Front Doors, many designs, up from.....\$2.25	Medicine Cabinets, with mirrors, "built-in" style.....\$6.50

We have our own mill, run it our way—most economically—and sell GUARANTEED quality material DIRECT TO YOU through our big illustrated catalog No. 62, which is sent free.



We Sell
Anybody.
Ship
Promptly
Anywhere.

O.B.W. WILLIAMS CO.
SASH AND DOORS
1943 FIRST AVE. SO. SEATTLE

Send for
Catalog.
Figure
Your Own
"Bill."

famous Oregon cherries will be ripe at the time of meeting, and an ample supply of this luscious fruit will be at the disposal of members. Pilkington says "there are two bites on an Oregon cherry," and he knows.

Members of the American Association should now decide upon their plans for attending this notable convention. It is up to all those who live east of the Rockies to assist in making the event one not soon to be forgotten; the Pacific Coast men may certainly be depended upon to do their part to make it so. The Transcontinental Passenger Association will issue summer tourist tickets from Chicago to Portland for \$75, returning by same or any other direct route. The Trunk Line Passenger Association announces "special fares" within its territory and it will be possible to buy a ticket in New York City to Portland and return for \$111.30. The rate from Rochester will be \$96.30. The Transcontinental Association has been asked to include our members in the "special excursion rates," and this request has been referred to interested lines for their decision. If granted, the rate from Chicago will be \$7.50 less.

President Meehan has appointed M. G. Fox of Rochester, New York, a committee to rally the Eastern men on the subject of special cars, and that gentleman at once inaugurated a vigorous canvass, the results of which are quite gratifying to date. Mr. Fox is hopeful that members in the Middle, Southern and Southwestern States will arrange to connect at Chicago so that all can cross the continent together. Members will do well to send their annual membership fee early to the secretary, and those who use the badge book for advertisements should get their copy in soon as possible. Those who will do so are asked to advise the secretary of their intention to go to Portland. The secretary will be pleased to answer all questions and furnish such information as he can if members will address him at 204 Granite Building, Rochester, New York. Yours very truly, John Hall, secretary.

Women's Campaign in Chicago Has Great Results

More apples were sold in Chicago on February 7, 1913, than in any other day in the history of the city, according to the estimate of Mrs. George W. Cravens, secretary of the Chicago Clean Food Club. About 3,000 retail grocers took advantage of the offer of twenty commission men to furnish apples at about half the regular price. The retailers, according to the agreement of the retail association, the commission men, and officials of the Clean Food Club, sold to their customers at correspondingly low prices. No. 1 Baldwin and Grimes Golden apples sold at ten pounds for 25 cents; Spitzenbergs sold for \$1.85 a box, and Winesaps, Black Willow Twigs and Bellflowers at \$1.60 a box.

Mrs. Craven said reports indicated that in the two days of the sale 30,000 barrels of apples would be sold at the

reduced price. Members of the club patrolled the retail stores to see if they were living up to their agreement. Mrs. W. H. Farrington, Mrs. Charles Betts, Mrs. Robert L. McCall, Mrs. T. S. Hall, Mrs. John J. Bley, Mrs. Frederick A. Dow, Mrs. Walter Beebe, Mrs. H. B. Gerstley, Mrs. Edward Gudeman and others helped. Over 12,000 apples were distributed among pupils of ten different schools by the Clean Food Club.

The apples were on sale in about half the grocery stores of Chicago. No money was invested by the women, but they arranged the buying and selling prices and took orders for apples. In only a few cases were inferior goods offered or prices higher than those agreed to asked. All apples were sold at less than the price which has been asked for them by retail dealers in the last few weeks. Many apples are said to be in cold storage awaiting a rise in prices, and it was this condition which caused the women to start the sales.—Exchange.

Women Smash Apple Prices

The National Housewives' League opened its apple market in Fifty-ninth Street, under the Queensboro bridge, yesterday, says the New York American of December 31. Selling apples at ten cents a quart below the general retail price, the women demonstrated their contention that the high cost of living is arbitrary. They did a heavy business throughout the day. Mrs. Julian Heath, president of the League, declares good profit can be made by selling apples at five cents a quart, but that the retailers throughout the city have been selling at fifteen cents. Dr. Madison C. Peters, whose market at No. 227 West Eighty-third Street has been so successful in forcing down prices of butter and eggs in that vicinity, intends to establish other markets immediately. He has the backing of moneyed men who are bound to force down the cost of living. This morning a new market will open in two big storerooms, at Nos. 262 and 264 West One Hundred and Forty-fifth Street, where there will be a complete line of fruits, vegetables, butter and eggs. Next Friday or Saturday another market will be opened on Sixth Avenue, in the shopping center, one of the large stores having offered space to Dr. Peters for his practical demonstration that the high cost of living can be reduced. Churches, clubs and stores are being placed at Dr. Peters' disposal, and he says that by substituting justice for charity he will gradually eliminate the need for charity except to the old and the sick.—"The Spy."

The Hood River Apple Vinegar Co. has paid to the growers of the Hood River Valley \$20,000 during the past season for cull apples. This is forty cents a hundred, or eight dollars per ton. There is a great demand for the Hood River apple vinegar and it sells in markets all the way from Alaska to England.

Water to Float a Navy

If all of the water which has been pumped by Aermotors could be collected in one great body, it would form a sea on which all the navies of the world could maneuver. But you do not have to pump oceans of water to supply your own needs. What you want is some reliable and economical power which will supply plenty of water for your house, barn and fields.

An Aermotor of suitable size erected on a tower of proper height will do the work for you without bother or worry and with practically no expense.

Power for Pumping

It costs nothing for power if you use an Aermotor to do your pumping. More water is pumped by Aermotors for stock and domestic purposes than by any other kind of pumping machinery. They do their work silently, surely and satisfactorily. Aermotors have been pumping water faithfully for the past 25 years. Go to any part of the inhabited world today and you will find the Aermotor there ahead of you. From Alaska to Patagonia, from Hongkong to Liverpool, from Siberia to the Cape of Good Hope and on all the islands of the sea you will find them. You cannot travel far today without seeing an Aermotor standing out as the most prominent object in the landscape. Aermotors have gone everywhere because wherever they have gone they have been found to be the most economical, and most reliable device for pumping water.

Count the Cost

The price of gasoline has taken a big jump. It is likely to go up again any day. The air is free and the supply is inexhaustible. No one can corner your source of power if you use an Aermotor for pumping water. The first cost of an Aermotor is small, the upkeep is almost nothing, the service is most satisfactory. Anyone who has used an Aermotor will never be satisfied with any other pumping device. It was the first steel windmill and has always been the best. Aermotor Galvanized Steel Towers are best, too.

"Storage Solves the Water Problem"

We have just issued a large hanger, 16 x 44 inches, on the above subject. It contains over 100 pictures of Aermotor outfits which have been pumping water for the farmers of one community for from 1 to 20 years. These pictures have been made from the finest lot of farm photographs that have ever been taken. If you will put up one of these hangers in your living room it will be the most talked about object there. It is 100 pictures in one and each individual picture shows a prosperous farm where the Aermotor is used for supplying all the water required. This hanger gives valuable information about the storage of water for household and stock purposes. You should certainly have one. It is free for the asking. Just one word "Hanger" on a postal card, with your name and address, will bring it.

Aermotor Co. Twelfth Street and Campbell Avenue, Chicago



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Better Fruit, Hood River, Oregon:

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Name

R.F.D. or Box.....

Town..... State.....



Northwest Fruit Growers' Unions and Associations

We publish free in this column the name of any fruit growers' organization. Secretaries are requested to furnish particulars for publication.

Oregon

Albany Fruit Growers' Union, Albany.
Asiland Fruit and Produce Association, Ashland.
Benton County Fruit Growers' Association, Corvallis.
Brownsville Fruit and Produce Association, Brownsville.
Coos Bay Fruit Growers' Association, Marshfield.
Coquille Valley Fruit Growers' Union, Myrtle Point.
Cove Fruit Growers' Association, Cove.
Dallas Fruit Growers' Association, Dallas.
Douglas County Fruit Growers' Association, Roseburg.
Dufur Valley Fruit Growers' Union, Dufur.
Dundee Fruit Growers' Association, Dundee.
Estacada Fruit Growers' Association, Estacada.
Eugene Fruit Growers' Association, Eugene.
Hood River Apple Growers' Union, Hood River.
Hyland Fruit Growers of Yamhill County, Sheridan.
Imbler Fruit Growers' Union, Imbler.
La Grande Fruit Association, La Grande.
Lincoln County Fruit Growers' Union, Toledo.
McMinnville Fruit Growers' Association, McMinnville.
Mil' on Fruit Growers' Union, Milton.
Mosier Fruit Growers' Association, Mosier.
Mount Hood Fruit Growers' Association, Sandy.
Newburg Apple Growers' Association, Newburg.
Northwestern Fruit Exchange, 418 Spalding Building, Portland.
Northeast Gaston Farmers' Association, Forest Grove.
Oregon City Fruit and Produce Association, Oregon City.
Rogue River Fruit and Produce Association, Medford.
Salem Fruit Union, Salem.
Santiam Fruit Growers' Association, Lebanon.
Springbrook Fruit Growers' Union, Springbrook.
Stanfield Fruit Growers' Association, Stanfield.
Sutherlin Fruit Growers' Association, Sutherlin.
The Dalles Fruit Growers' Union, The Dalles.
Umpqua Valley Fruit Growers' Association, Roseburg.
Washington County Fruit Growers' Association, Hillsboro.
Willamette Valley Prune Association, Salem.

Washington

Apple Growers' Union of White Salmon, Underwood.
Bay Island Fruit Growers' Association, Tacoma.
Brewster Fruit Growers' Union, Brewster.
Buckley Fruit Growers' Association, Buckley.
Cashmere Fruit Growers' Union, Cashmere.
Clarkston Fruit Growers' Association, Clarkston.
Cowlitz Fruit and Produce Association, Kelso.
Dryden Fruit Growers' Union, Dryden.
Elma Fruit and Produce Association, Elma.
Felida Prune Growers' Association, Vancouver.
Garfield Fruit Growers' Union, Garfield.
Goldendale Fruit and Produce Association, Goldendale.
Grandview Fruit Growers' Association, Grandview.
Granger Fruit Growers' Association, Granger.
Kalama Fruit Growers' Association, Kalama.
Kennewick Fruit Growers' Association, Kennewick.
Kiona Fruit Growers' Union, Kiona.
Lake Chelan Fruit Growers' Association, Cbelan.
Lewis County Fruit Growers' Association, Centralia.
Lewis River Fruit Growers' Union, Woodland.
Mason County Fruit Growers' Association, Shelton.
Mount Vernon Fruit Growers' Association, Mount Vernon.
Northwestern Fruit Exchange, 510 Chamber of Commerce Building, Spokane.
Peshastin Fruit Growers' Association, Peshastin.
Pullman Fruit Growers' Association, Pullman.
Puyallup and Sumner Fruit Growers' Association, Puyallup.
Spokane County Horticultural Society, Spokane.
Spokane District Fruit Growers' Association, Spokane.
Spokane Inland Fruit Growers' Association, Kelisling.
Spokane Valley Fruit Growers' Co., Otis Orchards.
Spokane Valley Growers' Union, Spokane.
Southwest Washington Fruit Growers' Association, Cbe-balls.
Stevens County Fruit Growers' Union, Myers Falls.
The Green Bluffs Fruit Growers' Association, Mead.

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The Ridgefield Fruit Growers' Association, Ridgefield.
The Touchet Valley Fruit and Produce Union, Dayton.
Thurston County Fruit Growers' Union, Tumwater.
Vashon Fruit Union, Vashon.
Walla Walla Fruit and Vegetable Union, Walla Walla.
tion, Kent.

Wenatchee District Fruit Growers' Union, Wenatchee.
Wenatchee Valley Fruit Growers' Association, Wenatchee.
White River Valley Fruit and Berry Growers' Associa-
White Salmon Fruit Growers' Union, White Salmon.
Yakima Valley Fruit Growers' Association, North Yakima
Yakima Valley Fruit and Produce Growers' Association,
Granger.

Yakima County Horticultural Union, North Yakima.
Zillah Fruit Growers' Association, Toppenish.

Idaho

Boise Valley Fruit Growers' Association, Boise.
Caldwell Fruit Growers' Association, Caldwell.
Council Valley Fruit Growers' Association, Council.
Emmett Fruit Growers' Association, Emmett.
Fruit Growers' Association, Moscow.
Lewiston Orchards Assembly, Lewiston.
Lewiston Orchards Association, Lewiston.
Nampa Fruit Growers' Association, Nampa.
New Plymouth Fruit Growers' Association, New Ply-
mouth.

Parma-Roswell Fruit Growers' Association, Parma.
Payette Valley Apple Growers' Union, Payette.
Southern Idaho Fruit Shippers' Association, Boise.
Twin Falls Fruit Growers' Association, Twin Falls.
Weiser Fruit and Produce Growers' Association, Weiser.
Weiser River Fruit Growers, Association, Weiser.

Colorado

Boulder County Fruit Growers' Association, Boulder.
Capital Hill Melon Growers' Association, Rocky Ford.
Crawford Fruit Growers' Association, Crawford.
Delta County Fruit Growers' Association, Delta.
Denver Fruit and Vegetable Association, Denver.
Fair Mount Melon Growers' Association, Swink.
Fowler Melon Growers' Association, Fowler.
Fremont County Fruit Growers' Association, Canon City.
Granada Melon Growers' Association, Granada.
Grand Junction Fruit Growers' Association, Clifton, Pal-
isade, Grand Junction.
Kouns Party Cantaloupe Growers' Association, Rocky
Ford.

Lamar Melon Growers' Association, Lamar.
Longmont Produce Exchange, Longmont.
Loveland Fruit Growers' Association, Loveland.
Manzanola Fruit Association, Manzanola.
Manzanola Orchard Association, Manzanola.
Montrose Fruit and Produce Association, Montrose.
Newdale Melon Growers' Association, Swink.
Palisade Fruit Growers' Association, Palisade.
Paonia Fruit Exchange, Paonia.
Pent County Melon Growers' Association, Las Animas.
Produce Association, Debeque.
Rifle Fruit and Produce Association, Rifle.
Roaring Fork Potato Growers' Association, Carbondale.
Rocky Ford Melon Growers' Association, Rocky Ford.
San Juan Fruit and Produce Growers' Association,
Durango.

The Producers' Association, Debeque.
Western Slope Fruit Growers' Association, Palisade.

Montana

Bitter Root Fruit Growers' Association, Hamilton.
Missoula Fruit and Produce Association, Missoula.
Woodside Fruit Growers' Association, Woodside.

Utah

Bear River Valley Fruit Growers' Assn, Bear River City.
Brigham City Fruit Growers' Association, Brigham City.
Cache Valley Fruit Growers' Association, Wellsville.
Centerville Fruit Growers' Association, Centerville.
Excelsior Fruit and Produce Association, Clearfield (post
office Layton R. F. D.)
Farmers & Fruit Growers' Forwarding Assn, Centerville.
Green River Fruit Growers' Association, Green River.
Ogden Fruit Growers' Association, Ogden.
Springville Fruit Growers' Association, Springville.
Utah County Fruit and Produce Association, Provo.
Willard Fruit Growers' Association, Willard.

California

California Farmers' Union, Fresno.
California Fruit Exchange, Sacramento.
Fresno Fruit Growers' Company, Fresno.
Lincoln Fruit Growers' Association, Lincoln.
Lodi Fruit Growers' Union, Lodi.
Loomis Fruit Growers' Association, Loomis.
Newcastle Fruit Growers' Association, Newcastle.
Penryn Fruit Growers' Association, Penryn.
Sebastopol Apple Growers' Union, Sebastopol.
Sebastopol Berry Growers' Union, Sebastopol.
Stanislaus Farmers' Union, Modesto.
The Supply Company of the California Fruit Growers'
Association, Los Angeles.
Turlock Fruit Growers' Association, Turlock.
Vacaville Fruit Growers' Association, Vacaville.
Winters Fruit Growers' Association, Winters.

New Mexico

San Juan Fruit and Produce Association, Farmington.

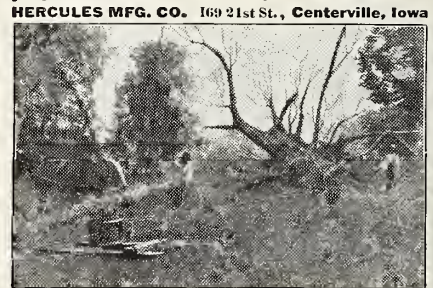
British Columbia

Armstrong Fruit Growers' Association, Armstrong.
Bowwell-Kootenay Lake Union, Bowwell.
British Columbia Fruit Growers' Association, Victoria.
Creston Fruit and Produce Exchange, Creston.
Grand Forks Fruit Growers' Association, Grand Forks.
Hammond Fruit Association, Ltd., Hammond.
Hatzie Fruit Growers' Association, Hatzie.
Kaslo Horticultural Association, Kaslo.
Kelowna Farmers' Exchange, Ltd., Kelowna.
Kootenay Fruit Growers' Union, Ltd., Nelson.
Mission Fruit Growers' Association, Mission.
Okanagan Fruit Union, Ltd., Vernon.
Queens Bay Fruit Growers' Association, Queens Bay.
Salmon Arm Farmers' Exchange, Salmon Arm.
Summerland Fruit Growers' Association, Summerland.
Victoria Fruit Growers' Exchange, Victoria.
Western Fruit Growers' Association, Mission.

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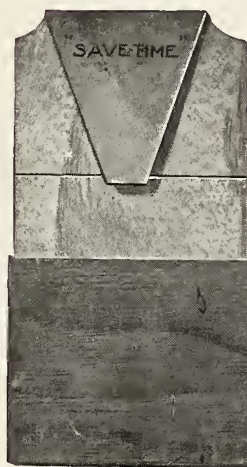
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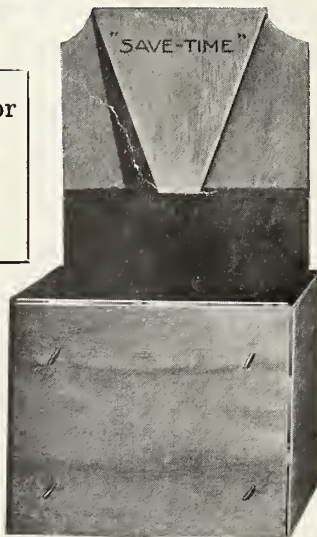
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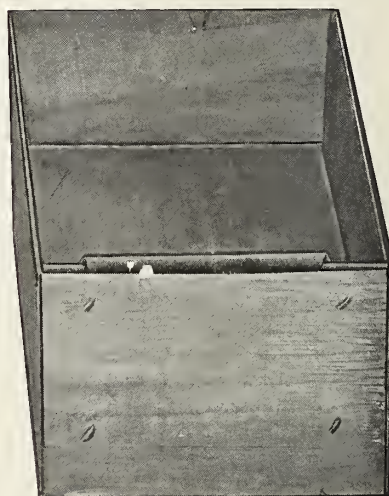


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